Strengthening Sustainability Assessment in Town Planning in Rural Saskatchewan

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ABSTRACT

The application of Sustainability Assessment (SA) within Canadian municipalities is a recent notion, but is quickly becoming widespread. The Government of Saskatchewan alone has already released two SA checklists. However, such tools are normally aimed at communities of all sizes, ranging from rural municipalities to big cities, without considering differences in the capacity base, needs, and conditions among those types of communities. Additionally, practical implementation of SA often does not reflect the scope of scientifically established criteria for SA tools. This paper will present the analysis of the 2009 Saskatchewan *Sustainability Checklist for Municipalities* (comparing it to one of the most prominent frameworks for SA and other similar checklists developed in Canada and internationally) in order to identify possible areas for improvement so that the *Checklist* reflects established SA principles and is sensitive to a small town context.

Based on the results of interviews with 16 small town administrators in Saskatchewan, this thesis demonstrates that, from a theoretical perspective, both of the existing SA tools are deficient in a number of important ways. The tools mainly focus on evaluating the municipal and service provision, rather than evaluating the sustainability of a community as a whole, including such areas as environmental conditions; social equity; livelihood sufficiency; resource maintenance; and intragenerational and intergenerational equity. However, the research reveals even if all of the above-mentioned criteria are integrated within the existing tools, it will be challenging for municipalities to perform a full sustainability assessment, since small towns' administrations often have limited financial and human capacity to perform such exercises. Additionally, there is a lack of understanding on how to integrate the results of an assessment into decision-making, and a perceived inability to change some of the existing economic or social conditions in a town, due to the limited scope of influence that local municipalities have. There is a need for an alternative approach to sustainability assessment in the case of small towns; one that is sensitive to their unique pressures, circumstances, and capacities to enact change.

Keywords: sustainability assessment; town planning; impact assessment tools; Saskatchewan sustainability assessment checklist; rural community development

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LIST OF ABBREVIATIONS

CMA	Census Metropolitan Area
EA	Environmental Assessment
EIA	Environmental Impact Assessment
ESE	Environmental, Social, and Economic
IA	Integrated Assessment
MCDA	Multi-Criteria Decision Aiding
SA	Sustainability Assessment
SD	Sustainable Development
SEA	Strategic Environmental Assessment
SK	Saskatchewan

CHAPTER 1

INTRODUCTION

1.1 Research Problem

This research attempts to advance the application of sustainability assessment (SA) within the area of community development, specifically when it is interpreted in a small town setting. Sustainability assessment is the most recent branch of the area of environmental assessment (EA) tools. Since 1969, project-based environmental impact assessment (EIA) and its policy counterpart, strategic environmental assessment (SEA), have made great contributions to development decision-making in Canada and worldwide (Gibson & Hanna, 2009). However, while EIA and SEA particularly address the *environmental* impacts of an initiative, the increasing need to integrate sustainable development (SD) principles more broadly led to the emergence of SA in the late 1990s (Morrison-Saunders & Fischer, 2006). Sustainability assessment is largely built on the basis developed by professionals in the areas of EIA and SEA, and therefore closely reflects acquired theoretical principles and methodologies of those fields (Pope et al., 2004). Sustainability assessment is now used to evaluate the environmental, social, and economic sustainability of a wide range of developments (Pope et al., 2004). On the other hand, this field of scholarship and practice is still very young; its value is somewhat contested (Morrison-Saunders & Fischer, 2006), and it has not been widely applied in community planning and decision-making.

One of the ways to proliferate SD at the local level is with the help of SA tools, which can indicate whether local development supports the vision of sustainability (Graymore et al., 2008; Devuyst, 2000). Already for some time, municipalities have started to integrate sustainability principles in urban planning (Alexander, 2001). However, EA tools and frameworks are rarely integrated in the decision-making processes of municipalities, due to the complex nature of such tools, and to a lack of training and awareness (Devuyst, 2000). Notably, few SA tools are currently utilized at the municipal level (Devuyst, 2000), although they would seem a natural fit given their emphasis on supporting SD. The ones that have been used are mostly ‘checklists’ of two types: those that monitor progress of local municipalities towards SD,

and those that assess whether policy and development proposals support the sustainability vision of a community (Devuyst, 2000; George, 1999). Largely missing, however, are easy-to-use tools that could help municipalities assess their current level or state of sustainability; the outputs of which would be highly useful to inform future growth planning processes.

In Saskatchewan, municipal SD tools are just emerging. Saskatchewan is one of the main agricultural provinces in Canada and 45 percent of its total population lives in towns, villages and rural regions (Statistics Canada, 2007b). The years between 2006 and 2011 were the first time in decades that the population of Saskatchewan's small towns had positive growth, 8% from the 2001 Census (Statistics Canada, 2011b)[1]. Previously to this, for the decades the rural population of Saskatchewan was declining, so that between 2001 and 2006 alone, the population of Saskatchewan's towns and villages decreased by 3.1% and 8.8% respectively (Statistics Canada, 2007a; Statistics Canada 2007b). The positive growth in more recent years was mostly due to rapidly developing resource industries in rural Saskatchewan; however, even positive growth might have a detrimental effect on rural centres that were stressed for decades (for example, population increase can put additional stress on local infrastructure). To assist local municipalities in preserving their communities, in 2009 the Saskatchewan Ministry of Municipal Affairs introduced the *Sustainability Checklist for Municipalities* (see Appendix A1) (Saskatchewan Ministry of Municipal Affairs, 2009). The *Checklist* was developed to assist elected officials, municipal staff, and community members in evaluating the 'general health' of their municipalities. However, the assessment tool is limited to evaluating political, financial and infrastructure resources. Neither environmental nor cultural sustainability indicators is included in the *Checklist* at present, and social indicators are limited to the administrative and governmental aspects. Further, the *Checklist* is presented as a tool suitable for all of Saskatchewan's municipalities, though urban and small town planning contexts may invoke very different kinds of sustainability considerations. Given the province's obvious interest in supporting the sustainability of municipalities at this time, there is an opportunity to re-imagine the Saskatchewan *Checklist* according to established SA principles and performance criteria, and to advance the integration of SA and urban planning more generally.

[1] In 2011, Census Canada estimated Saskatchewan's population to be 1,033,381, which is a 6.7% increase from the Census 2011 (Statistics Canada, 2011b).

1.2 Research Purpose and Objectives

The purpose of this research is to investigate ways to enhance the 2009 Saskatchewan *Sustainability Checklist for Municipalities,* such that it equipped to broadly characterize and evaluate current economic, social, environmental, and cultural conditions of small town communities, in support of future development planning.

The specific research objectives are to:

1. Identify unique aspects and challenges of SD within the context of small town planning broadly, and in Saskatchewan;

2. Evaluate the *Checklist* against established SA principles and other SA evaluative frameworks for urban planning to identify strengths, weaknesses and gaps;

3. Identify areas for improvement in the *Checklist* such that it reflects both a small town context and established SA principles, engaging the wisdom of small town administrators.

An enhanced *Checklist* that reflects the core principles of SA and the unique context of small towns should allow small town administrators to more easily assess the strengths, challenges, and opportunities of their community with respect to SD, and more easily plan for sustainable future conditions. Attention to issues of SD may also help to reverse the decline of small town populations and ensure they remain viable into the distant future. It is hoped the research will lay the groundwork for future studies and applications of SA in small town settings in Canada and internationally.

1.3 The Promise and Potential of SA

Sustainability Assessment is the most recently evolved tool in the family of EA tools and is considered to be 'a premier tool' among others (Devuyst et al., 2001). According to Gibson (2006), SA raises the bar with respect to outcomes, compared with conventional EA tools, since it attempts to improve the general situation of a community or region, rather than just to mitigate the negative impacts of a specific development project on the environment (Gibson, 2006; Devuyst, 2000). Post (1998: 50) explains:

> It [SA] aspires to describe—from the perspective of an identified problem or proposed project—the relations between the human communities concerned, their economic organization and their actual resource base. It qualifies, quantifies, and, as far as possible, values the effects of proposed and alternative interventions on the three (economic, social and natural) subsystems and their intersystem relations. It attempts to identify beneficial interventions and to fully expose unavoidable trade-offs.

Integration of SA tools into local and regional planning processes is believed to influence the direction of current development and make it more sustainable, which means a future that is more economically stable, socially and culturally integrative, and generally healthier for the environment (Sheate et al., 2008; Dalal-Clayton & Sadler, 2005; Pope et al., 2004).

Sustainability assessment is based on a 'three-pillar' approach, meaning that it promises equal consideration of the economic, environmental and social (ESE) aspects of a development (however, newer conceptual frameworks defy 'three-pillar' approach and aim for more integration). Dalal-Clayton & Sadler (2005: 368) described SA as "an integrated assessment of the environmental, social and economic effects of proposed actions at all levels of decision-making." The term 'integration' in this case is used not just to describe an evaluation of separate parts, but rather to emphasize that it is an evaluation of different parts that are treated as one merged entity (Pope et al., 2004; Eggenberger & Partidario, 2000). In this way, Gibson (2005) argues that SA is an attack upon conventional thinking and practice in EA. Worldwide, SA is the only one of the assessment tools that takes into consideration all aspects of SD in an integrated manner, makes trade-offs among ESE components explicit, and encourages mutually reinforcing net gains in each area (Bond et al., 2012).

Sustainability assessment further promises a number of other benefits, not typically experienced with conventional forms of EA. Devuyst (1999: 468), in his paper *Sustainability Assessment: The Application of a Methodological Framework*, describes future of SA in the following way: "In the future sustainability assessment could become part of a broader sustainability management system in which a SD vision is linked to goals, targets and indicators, sustainability assessment, monitoring and reporting" which "could be considered an evolution from environmental management systems" (Devuyst, 1999: 482). The main characteristic that distinguishes SA from the other EA tools is that it is a much richer concept (Pope, 2006). It is not limited in its application, and can be applied to all levels of the decision process in projects, policies, plans and programmes (Pope, 2006). Further, Devuyst (2000) and Gibson (2006) note it

does not just focus on predicting future impacts (as in project-based EIA), but rather explores sustainable alternatives to a proposal.

Although serious application of carefully designed SA frameworks is still quite limited (Bond et al., 2012), the success of two fairly recent cases helps to portray the potential of SA. The first is a well-known example of SA performed for the South West Yarragadee Water Supply Development in Australia. This was a development proposal for a new fresh water supply line in South West Yarragadee region, in Australia. The proposed project included extraction, treatment and conveyance of ground water from a site in the south-west of Western Australia to the City of Perth, which is the regional capital. The proposed pipeline route was evaluated in order "to determine the most sustainable way to develop the resource" (Morrison-Saunders & Pope, 2013: 153). The assessment was run by a panel that based its results on the established sustainability objectives (Morrison-Saunders & Pope, 2013; Strategen, 2006). Also, extensive community consultation was part of the process, due to the project's economic, environmental and social benefits to the region (Morrison-Saunders & Pope, 2013; Strategen, 2006).

Another successful case of SA was in Canada, via the *Voisey's Bay Nickel Mine and Mill Project* EA on the Labrador north coast in 1999 (Gibson, 2013). This assessment was one of the first that followed the established procedural steps for an EA process, including public hearings and issuing a list of recommendations to the relevant governmental bodies (Gibson, 2013). The development of a nickel mine was proposed between years 1997 and 2002 in Voisey's Bay on the coast of Labrador. This territory traditionally belonged to the Inuit and Innu people and still retains its aboriginal title. Mining projects typically have short life spans, as they are designed to extract natural resources in the shortest possible period. Thus, they provide rapid but not lasting economic development in a region (Gibson, 2006a). For a long time, this was accepted as the nature of the industry, and the company itself was not known for considering environmental or social aspects in its projects (Gibson, 2006a). Opposition from the Inuit and Innu people mainly arose from the concern for the environmental and social aspects of the development. They realized economic benefits would flow from the development; however, there were downsides to other aspects, such as these: high environmental impact that could disturb local wildlife and ecosystem; loss of control over traditional lands and resources; additional disturbance to already shaky social conditions in communities; and transitory economic benefits. The EA of this project was unique because the approval decision was based on the "contribution to sustainability" and

not just mitigation of negative environmental impacts (Gibson, 2006a: 334). The refinery was required to be built in Newfoundland and the life-span of the mining project was required to exceed a 30 year period, thus providing long-term economic benefits to the region and the province. Inuit and Innu nations secured long-term economic and social benefits by signing an agreement that outlined certain conditions "for revenue sharing, local employment and contracting, training programmes, and community roles in on-going review of project implementation" (Gibson, 2006a: 339). The binding agreements established between the developers (Vale) and local government obliged the developers to follow the established pace of development and extraction. Unfortunately it is too early to talk about the long-term benefits of the project on the region (Vale, 2012). This type of a project requires extensive infrastructure (port facilities, power supply, water supply, roads and airport), construction of a mine, and a processing plant due in 2013. Therefore, the project is only at the end of the construction phase and not yet into the extraction phase (Vale, 2012). A significant outcome of the SA was that it resolved a conflict between the mining company and local communities that had been ongoing for more than five years.

Unfortunately, the application of SA in Canada still mostly takes place only occasionally, in special circumstances, and not as part of a legislated process (Gibson et al., 2005; Pope et al., 2004). Formal requirements for SA are much more common in countries such as Australia and Great Britain. The government of Western Australia already for some time has been engaged in the creation of SD strategies that require application of SA (Pope & Grace, 2006). Additionally, Australia has experience with SA application to regional industrial development (e.g. Gorgon Gas Development on Barrow Island; South West Yarragadee Water Supply Development; Fremantle Outer Harbor), though it is most frequently used for project approvals rather than for strategic evaluation (Bond & Morrison-Saunders, 2011; Pope & Grace, 2006). The United Kingdom has incorporated SA as a compulsory step in land use planning under the *Planning and Compulsory Purchase Act*, 2004, and it is well known to use SA consistently to evaluate plans and programs (e.g. a review by the Committee on Radioactive Waste Management of possible management strategies to address radioactive waste in the UK) (Bond & Morrison-Saunders, 2011).

Civic administrations are starting to see the benefits of integrating sustainability principles in their community planning and operations (Devuyst et al., 2001). Many big cities

and regions have adopted sustainability strategies in their future planning [e.g. Western Australian Sustainability Strategy (Government of Western Australia, 2003); the Melbourne Principles for Cities (United Nations Environment Programme, Division of Technology, Industry and Economics, n.d.))]. Others are demonstrating how application of indicators can inform the SD planning process (e.g. Sustainable Seattle; City of Melbourne). In Canada, civic administrations are especially active in the development and application of 'SA-like' tools, mostly checklists for evaluating the sustainability of cities and regional districts. Some examples are: *City of Port Coquitlam Sustainability Checklist* (City of Port Coquitlam, 2006); *City of Kelowna Sustainability Checklist: Commercial or Multi-unit Development* (City of Kelowna, 2007); *Newfoundland and Labrador Municipal Sustainability Self-Assessment Tool Kit* (Municipalities Newfoundland and Labrador, 2009); *A Checklist for Sustainable Planning and Development in Dawson Creek* (City of Dawson Creek, 2009). To date, though, a full SA has not yet been performed for any major civic development project in Canada.

Newman (2005) advocates for the application of SA in city planning, to ensure policies, plans and programs are evaluated from the point of sustainability. This is to ensure that cities and towns are able to adjust to new conditions in the future. Newman (2005: 397) emphasizes that "The value of SA is so obvious that it is bound to develop as a methodology and a priority for government, business, and the community." Based on the foregoing examples, there is great potential for SA to become a leading tool that helps communities to "comprehensively/simultaneously/equally consider the relevant/full range of SD 'themes'" (Hacking & Guthrie, 2008: 77) and to build healthy communities. Sustainable community planning is a major component of the charge toward sustainability globally (Trainer, 1995).

It is important, however, for so-called SA tools to be precise in representing the scientifically established principles of SA. If application of SA is done improperly, it can compromise all the benefits promised by such an assessment process (Gibson et al., 2005). One of the main concerns about SA is that it may devalue the importance of preserving a healthy natural environment in favor of economic and social benefits (Therivel et al., 2009). If SA is poorly conceived or designed, there is a chance that environmental considerations will be 'traded away' for socio-economic benefits, and that is not the intent of SA (Bond & Morrison-Saunder, 2009; Gibson et al., 2005). If this happens, misleading ideas can be generated that society is becoming more sustainable while, in fact, developments are providing non-sustainable services

under the label of 'sustainability' (Morrison-Saunders & Fischer, 2006). Gibson (2005) emphasizes that though the design of a particular SA process may vary from case to case, some core features, like environmental, social and economic elements, should be always present. The EA community of practitioners and academics has been battling for far too long to bring value for environmental aspects to the fore of planning and decision-making, only to lose it over carelessness (Pope et al., 2004).

1.4. The Need for Sustainability Planning in Small Towns

Since the late 1980s, hundreds of different tools and measures have been developed to evaluate SD, but they are mostly focused on global, national and regional scales of assessment (Ness et al., 2007; Wrisberg et al., 2002; Briassoulis, 2001). Much less attention has been devoted to SD practices on the scale of small towns, although at this level often the greatest impact on sustainability may be made through decision-making and community choice (Graymore et al., 2008; Devuyst et al., 2001). The 1992 Earth Summit at Rio de Janeiro emphasized the importance of viable local communities and role of authorities within them:

> Local authorities construct, operate, and maintain economic, social and environmental infrastructure, oversee planning processes, establish local environmental policies and regulations, and assist in implementing national and sub-national environmental policies. As the level of governance closest to the people, they play a vital role in educating, mobilizing and responding to the public to promote sustainable development (UNCED, 1992: paragraph 28).

Devuyst (2001) supports this idea, and adds that because SA is in the beginning stage of its development, the most effective and proficient scale for its application would be on the scale of cities and towns. Bossel (1999: 85) states: "The community is the smallest cell of human interaction that contains all the vital subsystems that we find in the larger units", including states and nations.

Canada is mainly an urban country; however, rural areas still play an important role as almost a quarter of the total population lives in small towns and rural areas (Statistics Canada, 2007a)[2,3]. Towns and rural areas are the ones that fuel the national economy; products that are

[2] Statistics Canada (2007a) defines rural and small towns as 'Areas outside Census Metropolitan Areas (CMAs) and Census Agglomerations (CAs). A CMA has a total population of 100,000 or more with 50,000 or more in the urban core and a CA has an urban core of 10,000 or more. Both

exported from rural Canada account for up to 50 per cent of Canada's exports (the Federation of Canadian Municipalities [FCM], 2009). According to the FCM (2009), if the crisis in rural areas remains unaddressed, it will have an impact on the national economy. Saskatchewan was the top province in terms of population loss between 2001 and 2006, population loss was due to people moving to more prosperous provinces (Statistics Canada, 2009).

Small towns are essential to Saskatchewan's identity and economy as a province; however, as in many other parts of Canada, many are struggling to survive. Historically, Saskatchewan was a predominantly agricultural province that had most of its population involved in grain production (Dale, 1988). This kind of economic development gave birth to a number of small communities to provide services to the surrounding rural areas, from educational to retail and health facilities. The biggest impact on the well-being of rural communities in Saskatchewan was the industrialization of the agricultural industry. Between the 1930s and 1980s, sizes of farms doubled; however, the amount of labor required for farms was cut in half and this led to a drastic decrease in rural population (Dale, 1988). Recent years have brought some change to the economic situation in the province. Today, Saskatchewan's economy is booming and is one of the fastest growing in Canada (Government of Saskatchewan, 2011). This upswing is tied to the intensified extraction of natural resources, much of which is taking place in rural parts of the province. Once again, small towns will play a role in providing housing and services for extraction sites and it is possible small town populations will again grow in areas of resource interest. Thus, Saskatchewan's well-being in the future will be closely linked to the well-being of its rural communities.

Though urbanization will very likely remain a prevailing trend in Canada, it should be remembered that rural areas are often the ones to provide primary economic services essential for the survival of cities (Devuyst et al., 2001). Twenty-five years ago, Dale (1988: 1) reported: "Under conditions that are becoming increasingly difficult, the strictly local authorities are unable to maintain the vitality of small communities or to provide the quality and surroundings

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CMAs and CAs include neighbouring towns and municipalities where 50% of more of the workforce commutes to the urban core.'

[3] According to the SK *Municipalities Act* (Government of Saskatchewan, 2006) and *The Cities Act* (Government of Saskatchewan, 2003), a village can be granted the status of a town, if its population exceeds 500 people; and a town can be granted the status of a city, if its population exceeds 5,000 people.

for rural living that are both attractive and satisfying." In the years hence, mitigation measures were either insufficient or ineffective, which pushed rural centres to fight for survival on their own (Fullerton, 2010). Some communities are proving successful in winning this battle [e.g. Gravelbourg, SK (Fullerton, 2010) and Whistler, BC (Gill & Williams, 2005)], but many others are still struggling to preserve their population and economic stability. The common trait among successful cases has been learning to adapt to present economic and social realities. Bruce (1997: 29) describes this response in the following way:

> These responses must respect the environment, provide economic opportunity and equitable access to social services, and not least of all provide the opportunity for as much local control over the future as possible. In short, the objective for any community is to manage change to achieve a sustainable community.

Freshwater (2004: 32) states "many rural areas are unlikely to be successful in their search for a more high profile role in Canadian and American economies without a change in the way they engage in development." In other words, SD models are becoming increasingly important to small towns as those towns reinvent themselves (Calder & Beckie, 2011).

At the same time, definitions of SD are still quite vague, and there is a lack of detailed direction on what, exactly, SD is supposed to achieve (Bell & Morse, 2008). However, the Canadian Federal Government is interested in ensuring the future vitality of its communities, and requests tools that could help communities to achieve that:

> If we want the post-recession world to include a stronger and more competitive Canada, it must also include stronger and more competitive communities—rural and urban. When it comes to building a strong national economy and healthy communities, there is no rural-urban divide. There are only Canadian communities ready to work but needing the tools to compete. It's time to make sure they have those tools (FCM, 2009: 5).

As stated in Sec 1.2, SA has great potential to become a leading decision-support tool in the shift toward SD.

Yet, despite the importance of small towns to the civic fabric of Canada and the potential of SA, the SA-like checklists mentioned in Sec. 1.3 (and others, see for example: Alberta Municipal Affairs, 2010; Biosphere Institute of the Bow Valley, 2011; The Federation of Prince Edward Island Municipalities, n.d.) were all developed with relatively large cities and metropolitan regions in mind. Small towns appear not be a part of this trend. Of course, it is often not possible for towns to carry out the same types of planning initiatives as cities, due to the level of resources required. But it is also true that the vitality of cities is often perceived as relatively more important, and many accept the decline of villages and small towns as an

inevitable part of the human settlement process (Fullerton, 2010). Epp & Whitson (2001: xxxii) state: “To clinically dismiss such communities [small communities], and the ways of life associated with them, as obsolete is to diminish the humanity of people who have sustained them over the years.” All types of communities are significant. According to Dale (2007), it can be either in economic, recreational, or cultural terms, or just as a home to local residents, but no matter what it is, every community deserves a chance for a bright future.

This research is positioned to help small towns remain healthy, viable, and able to provide their irreplaceable services to society. There are a number of questions that this research is designed to answer, including: What are the unique aspects of SD planning in small towns? How does one design an SA tool that both satisfies scientifically established criteria and is still suitable for small town administrative capabilities? What are the difficulties in implementing SA principles in a small town setting? Considering the aforementioned issues and the promise of SA in helping to solve them, this research should be of great interest to both the international EA community and to policy-makers interested in the long-term success of small towns, both in Saskatchewan and elsewhere.

1.5 Thesis Organization

This thesis is organized into six chapters. Following this introductory chapter, which explains the research problem and study rationale, a literature review in Chapter 2 characterizes the research gap. Chapter 3 describes the research methodology and introduces the study area. Chapter 4 and Chapter 5 present a detailed account of the study’s findings, while at the same time discussing the significance of the results with respect to literature reviewed in Chapter 2. Chapter 6 summarizes the main conclusions and contributions of the study, and finally presents recommendations and potential future research studies in this area.

CHAPTER 2

LITERATURE REVIEW

2.1 What is Sustainability Assessment (SA)?

Sustainability assessment is still in the early stages of development as a concept and practice, thus definitions and methodologies are still fluid. However, one definite aspect is that it is based on the concept of sustainability; consequently, it follows the primary principles of respecting and protecting the environment, while equally considering the economic and social well-being of people. (However, this concept of sustainability has evolved from the time of SA initiation into more advanced concepts like Gibson's et.al [2005] *Criteria for Sustainability Assessment)*. Additionally, Gasparatos et al. (2008) point out that despite the vagueness of the concept, the following characteristics of SA are uniform and agreed upon, that SA: (a) should evaluate how current actions affect the future; (b) should accept that some uncertainties about effects on the future will remain and thus suggest action on a precautionary basis; (c) should include the public's opinion; and (d) should include intragenerational and intergenerational equity considerations. There are several good explanatory definitions for SA, for example:

> SA is an impact assessment carried out against or within an explicit frameworks of goals, principles, rules and indicators…This framework, however defined, is used to test whether a proposed action approximates towards or away from key requirements for realizing sustainability and to identify the main conflicts and trade-offs at stake (Dalal-Clayton & Sadler, 2005: 12).

> Sustainability assessment is often described as a process by which the implications of an initiative on sustainability are evaluated, where the initiative can be a proposed or existing policy, plan, programme, project, piece of legislation, or a current practice or activity (Pope et al., 2004: abstract).

> In parallel with the strategic environmental assessment (SEA) definition of Therivel et al. (1992), sustainability assessment can be defined as a formal process of identifying, predicting and evaluating the potential impacts of a wide range of relevant initiatives (such as legislation, regulations, policies, plans, programmes and specific projects) and their alternatives on the sustainable development of society. The process includes writing a report on the findings of the sustainability assessment in such a way that it improves the publicly accountable decision-making process (Devuyst, 2000: 68).

SA is also referred to as a communicative tool that allows better correspondence in relation to sustainability issues; according to Devuyst (2000), it should be designed in a way that encourages creating innovative solutions to current problems.

Sustainability assessment is the 'newest' (Gibson & Hanna, 2009), or as referred to by Bond et al. (2011: 53), the "third generation" of EA tools. It is designed to ensure that proposed

developments will contribute to a more sustainable future (Gibson & Hanna, 2009). Development of SA is largely based on previously established frameworks of project-based EIA and SEA. Though SA is considered to be a more advanced framework (Gibson, 2001; Sadler, 1999), it still retains many characteristics of the earlier EA frameworks, and those earlier frameworks are still rooted in the now passé paradigms of reductionism[4] (Gasparatos et al., 2009) and rational-comprehensive planning (Gunn, personal communication, 2012). Moreover, current SA procedures originated from earlier single-dimension forms of assessment (primarily focused on environment) that do occasionally assess environmental, social and economic (ESE) consequences under one assessment process, but do not address the interrelations between different elements of sustainability (Bond et al., 2013). Thus earlier EA frameworks never fully emerged as forms of *integrated* assessment (Weaver & Rotmans, 2006). Despite this, there are several core differences that distinguish SA from previously established EA frameworks (see Table 2.1).

[4] Reductionism is "breaking down complex processes to simple terms or component parts" (Bond & Morrison-Saunders, 2011: 2).

Table 2.1 Differences between SA and its predecessors: project-EIA, and SEA.

	Project-based EIA	SEA	SA
Purpose	It is a process aimed to evaluate possible negative effects on the biophysical environment from a proposed project, and bring that information to the attention of the decision-makers (Noble, 2005).	Incorporates environmental considerations into decision-making processes for policies, plans, and programs at the early stages of strategic planning (Partidario, 2000; Therivel and Partidario, 1996).	"applied to a wide range of undertakings at different stages in the policy cycles (ex ante, in process, ex post, etc.), for purposes of screening, monitoring, review and evaluation, and at different levels in the policymaking hierarchy from strategic to specific plans, projects and policy proposals, and at different geographical levels of policymaking from pan-regional through national to local" (Weaver & Rotmans, 2006: 288).
Aims	" to improve the quality of decisions from an environmental point of view; to aid project management; to smooth consent procedures; and to raise environmental awareness" (Marr 1998: 4).	To ensure that environmental considerations are integrated into a strategic planning process, which would result in more sustainable, environmentally sound development (UNECE, 2007).	Attempts to identify whether specific initiatives, such as plans, policies, programmes or current practices, contribute to a more sustainable society (Pope et al., 2004; Devuyst et al., 2001).
Areas of evaluation	It is mostly used to evaluate negative effect on the biophysical environment, however, existing EIA definitions suggest that it can be used to evaluate impacts on the human environment (though it should integrate relevant criteria into the assessment) (Morrison-Saunders & Fischer, 2006; Noble, 2005).	It is designed to evaluate negative environmental implications of policies, plans and programs (Noble, 2005).	It is designed to both evaluate negative impacts on the whole spectrum of economic, social and environmental aspects and encourage net positive gains through intelligent and explicit trade-offs (Morrison-Saunders & Fischer, 2006).
Practical application in Canada	EIA is the most well established in Canada as it is entrenched in federal and provincial legislation; every year thousands of EIAs are being carried on projects ranging from local initiatives to large industrial projects (Noble, 2005).	On a regular but voluntary basis, it is employed by the federal government to evaluate various policy, plan, and program initiatives. Outside the federal government implications, it is practiced on ad hoc basis (Noble, 2009).	Currently, there are just *de facto* applications of SA in Canada. The ones that are being carried out represented the very early stages of SA development in Canada (Gibson, 2008, 2013).
Treatment of impacts	EIA aims "to optimize the positive outcomes of a project and minimize the negative outcomes" (Noble, 2005: 131). Minimization of negative impacts can be achieved through avoidance or mitigation of negative impacts, also as rectification or compensation for the inflicted damage (Noble, 2005; Glasson et al., 1999; Sadar, 1996).	SEA is designed to determine the best option for the development strategy; however, there is no system that would oblige decision-makers to comply with the provided recommendations (Noble, 2009).	SA is designed to evaluate whether an initiative will contribute to SD. Moreover development of more sustainable alternatives or recommendations is another essential element of SA. However, there is no developed legislated system that would oblige decision-makers to comply with the provided recommendations (Therivel, 2013).
Evaluation of sustainability	EIA is not designed to evaluate SD; however it can be used for that purpose if ESE criteria is incorporated into an assessment (George, 1999).	SEA can potentially evaluate sustainability, however, some adjustments to the current procedures need to be made to make that possible (Therivel & Portidario, 1996).	"Focus on maximum gains for sustainability, aim for selection of the best option (rather than merely judge the 'acceptability' of proposed undertakings) and seek enhancement of multiple, reinforcing sustainability benefits in addition to avoidance or mitigation of significant negative effects" (Gibson *et al.*, 2005: Appendix 5)

Sources: George, 1999; Glasson et al., 1999; Marr, 1998; Morrison-Saunders & Fischer, 2006; Noble, 2005; Noble, 2009; Partidário, 2000; Sadar, 1996; Therivel & Partidario, 1996; UNECE, 2007.

Although SA has its origins in earlier established EA tools, Table 2.1 makes it clear that SA has number of attributes that clearly differentiate it as 'the next generation' in EA tool development. Notably, SA is designed to evaluate overall sustainability of an initiative; aims to provide integrated assessment of environmental, social and economic aspects; and subsequently to provide more sustainable alternatives to the current proposal.

Sustainability assessment is a 'requested' tool; in other words, it evolved in response to an international call for practical assessment tools that would assist in implementing SD. In 1987, the Brundtland Commission stated there is a need for instruments to help guide current development towards sustainability and requested the creation of tools that would assist in this process (Hardi & Zdan, 1997). Nine years later, the International Institute for Sustainable Development (IISD) initiated a meeting for researchers and practitioners in the area of SD to review state of the art progress, share experiences and develop further courses of actions (Devuyst, 2000). The outcome of this meeting was the establishment of first guidelines for SA-like assessments, Bellagio Principles for Assessment (named after the city where the meeting was held Bellagio, Italy) (Hardi & Zdan, 1997). Since then, the concept of SA has steadily progressed and evolved into an established framework for evaluating SD.

Summarizing research progress in the area of SA is difficult for a number of reasons. First, due to high demand for tools that would evaluate SD, development of tools is occurring not only within academic circles, but also within practitioner, organizational and community circles. The fact that the academic community does not always guide SA development (assuming that peer-reviewed science creates the best foundation for advancing practice) means a great number of SA initiatives now exist that do not always conceptually reflect established SA frameworks, but are still labeled that way. This makes it hard to follow all the activity that is happening in the area of 'SA', and very difficult to characterize advancement in the field, because a thorough analysis is required to decide which 'SAs' are 'true' SAs and which ones are only labeled that way. Thus, this literature review concentrates on summarizing SA progress directly within the field of EA, meaning that the SAs that are reviewed follow standard EA methodology and procedures,[5] and are thus based on a scientifically established framework.

[5] According to Noble (2005), generic EA process includes the following stages: project description; screening, scoping; impact prediction and evaluation; impact management; review and decision; implementation and follow-up.

Second, there is a lack of publications that provide an overall review of the discipline. As pointed out by Bond et al. (2012: 54), "the majority of publications on SA relate to specific, one-off case studies and not to general practice or to the conceptual advancement of the field." A significant effort was made to locate literature on SA that would provide state-of-the-art information on the concept, methodology and practice. However, extensive analysis was also required 'to put the pieces of the puzzle together' by the researcher, which could result in some misunderstandings and misconceptions, which were not in any way intentional.

Third, sustainable community development (esp. sustainable rural community development) is an area with a lot of attention, but once again, it is primarily a practice-led field and has been given surprisingly little attention in academic circles. There is some academic research dedicated to planning sustainable urban cities, but unfortunately smaller communities tend to receive little attention and there is a paucity of literature in this area (Townshend, et al., 2010; Winchell & Koster, 2010). Sustainability Assessment is also guilty of this: although many SA-like tools have been created for application within communities, the development is rarely led by the academic community and thus oftentimes do not have a strong conceptual basis. Moreover, current SA application is generally limited to large-scale projects (mostly industrial) that have assigned panels to evaluate the sustainability of a project (Gibson, 2013). Thus, when it comes to applying SA-like assessments to planning in smaller communities, the application is mostly initiated by the communities or local organizations themselves. It gets very little attention from established SA research scholars, who currently number few on an international scale.

Finally, according to Therivel (2013), Morrison-Saunders & Pope (2013), and Gibson (2013), SA criteria are different in every case: SA may either be developed by a panel specifically for a particular project, or may be adopted from some other source (for example, for Kemess North copper mine environmental assessment, a framework used to assess mining undertakings by North American working group of the Mining, Minerals and Sustainable Development was adopted [MMSD-NA Task 2 Work Group, 2002]). Even among cases of SA applied in the same sector (industrial development), there is no single set of assessment criteria, which makes it difficult to summarize SA application and the development of SA tools. Because of the flexible nature of SA in practice (and one could argue, of SD more generally), it allows each assessment process to be tailored according to one's priorities and needs (which are economic in many cases) (Weaver & Rotmans, 2006). Thus, currently there are many tools and

approaches that are labeled as 'SA', but are far from satisfying the established SA principles, at least as they are expressed within the field of EA.

2.2 Research Progress in SA Within the Field of Environmental Assessment

2.2.1 Conceptual Development

As was mentioned earlier, SA is a new EA tool that is less than two decades old. As a result, foundational concepts are still being clarified. According to Bond et al. (2012: 53), "The point has not yet been reached at which there is universal consensus as to what sustainability assessment is or how it should be applied." However, Pope and Morrison-Saunders (2013:159) also state that although there is no concrete methodology for SA, "the lack of stipulated process for SA may be a strength, since it allows for flexibility in process design that demonstrates learning from experience." The same authors are stating that interest in SA has grown substantially (judging by the number of scientific publications on the topic): thus we should expect that research in the area is just starting to catch up with the demand (Pope & Morrison-Saunders, 2013).

Conceptual development of SA is in many ways tied to the overall progression of the SD concept, which has been rather slow, since its rise to prominence in the late 1980s. There still is no clear definition of the concept of sustainability (Pope et al., 2005). The first principle of *Bellagio Principles for Assessment* says that "Assessment of progress toward sustainable development should be guided by a clear vision of sustainable development and goals that define that vision"; yet numerous authors argue it is still not clear what SD should look like in practice (Weaver & Rotmans, 2006; Pope et al., 2004; Bosshard, 2000). Pope et al. (2005) claim that until there is a clear idea on what the goals of SD are, it will be difficult to develop concrete procedures for SA; and while the objectives of SA remain vague, it will be easy to manipulate it in favor of other, possibly 'pro-development', discourses (Bond & Morrison-Saunder, 2009). Pope et al. (2005) state that developing a clear definition of sustainability is essential for proper functioning of a sustainability-based assessment.

When it comes to integrating sustainability into an assessment, one of the ways to perceive the concept of sustainability is to see it based on the 'pillars' of sustainability, in which each pillar represents different areas of human development/society (Gibson, 2001). As the concept of sustainability was developing, there was a debate about whether to base it on 'two

pillars' (environment and social), 'three pillars' (environmental, social, and economic), 'four pillars' (environmental, social, economic and cultural) or 'five pillars' (environmental, social, economic, cultural and political/institutional) (Gibson, 2006). Nature preservation advocates and environmentalists who wish to grant equal importance to natural and human environments favor the 'two pillars' approach (Gibson, 2006). The 'four-' and 'five pillars' approaches are popular among international organizations that are in charge of international development strategies (Gibson, 2006). However, the most popular today is the 'three pillars' approach, which recognizes that material gain is not the only element of human satisfaction and that social and environmental aspects are equally important for human well-being (Gibson, 2006). Although the 'three-pillars' approach is the most popular nowadays, there are more leading developments in the field that are not 'pillar' based, but rather aim for integration and interconnectedness of all the elements in an initiative (will be discussed in more details in the next section). Those are the ones that will lead the development of this study.

Developing methodology for SA is even more difficult, since SA is an Integrated Assessment (IA)[6] framework. Although numerous authors describe procedural steps for IA (e.g. Weaver & Rotmans, 2006; Lee & Kirkpatrick, 2001; Devuyst, 1999), there is no single accepted approach for it (de Ridder et al., 2007), or a proper definition (Morrison-Saunders & Therivel, 2005). According to Morrison-Saunders and Therivel (2006), traditional EIA that takes into consideration ESE aspects is an example of a 'least integrated' framework. Conversely, the goal of SA is to achieve a very high level of integration, and to maximize the positive outcome of an assessment process (Morrison-Saunders & Therivel, 2006). Gibson (2001: 3) says that: "Assessment requirements must encourage positive steps – towards greater community and ecological sustainability, towards a future that is more viable, pleasant and secure." Unfortunately, Bond and Morrison-Saunders (2011) argue that SA is still far from achieving its goal of being an assessment tool that evaluates sustainability in a holistic manner.

Thus, the conceptual development of SA is currently at the stage that project-based EIA was, decades ago (Bond & Morrison-Saunders, 2009), which entails uncertainty about its role, chosen methodologies and procedures. While 40 years were enough for practitioners all over the

[6] Lee (2002) and Pope (2006) define three following types of 'integration', the most common being 'horizontal integration' (integration of three pillars), 'vertical integration' or 'tiering' (combining different assessments taken at various stages of a project), and a form of procedural integration (integration of the assessment process with the development of the proposal).

world to gain experience and knowledge in how to apply and regulate EIA processes, SA is possibly several decades from that point, given that it emerged barely more than ten years ago. Although recent years brought many chances for exercising SA methodology and procedures, SA is still at a trial and error stage. At the moment, SA tries to be a 'jack of all trades' and Bond (2009: 327) is convinced that "there is an immediate need for reflection on the methods adopted and the interpretations of the results in the context of what really does constitute a sustainable outcome."

2.2.2 Frameworks

This section summarizes progress in establishing frameworks or 'procedures' to guide the process of SA. To avoid confusion, it is important to clarify that SA is a *framework* for evaluating SD; however, it is often referred to as a *tool* (e.g. Devuyst, 2001). Gasparatos (2010: 1614) defines frameworks as "integrated and structured procedures, akin to protocols, which contain a number of prescribed stages that ought to be followed in order to meet a pre-determined objective." At the same time, de Ridder (2007: 425) defines *tool* as a "collective term and refers to all kinds of methods, techniques and *procedures* that are developed and intended to play an instrumental role in an assessment." Thus, *frameworks* can be categorized as tools, however they are have their own category and are 'procedural tools': procedures designed to link a decision-making process and that can incorporate a number of analytical tools within them (Finnveden et al., 2003). Therefore, in the case of SA, both terms, *tool* and *framework*, are applicable and will be used interchangeably in this thesis.

Researchers in the area of SD have formulated a number of frameworks for SA, aimed to guide and assist in assessment processes; however, there is no single, uniformly accepted framework that is referred to for each assessment process. As was mentioned earlier, the first framework, Bellagio Principles for Sustainability Assessment, was developed by a number of practitioners in 1996 (Hardi & Zdan, 1997). Since then, other researchers have developed frameworks for SA, such as: the Government of Western Australia (2003); George (1999; 2001); Sadler (1999); Pope et al., (2004; 2005); Gibson et al. (2005) and Hacking & Guthrie (2008). However, only the last three frameworks referred to above were developed by EA practitioners specifically for SA, within the field of EA. Since, in this thesis the concentration is on SA within EA, these three frameworks will be discussed in more details.

The first framework is designed by Theo Hacking, a researcher at the Centre of Sustainable Development, Cambridge University; and by Peter Guthrie, a director of the same centre. Hacking and Guthrie (2008) argue there are a wide variety of 'approaches' for evaluating sustainability, and categorize them based on the following characteristics: "'strategicness' of the focus and scope", "comprehensiveness of the coverage", and "'integratedness' of the techniques and themes" (see Figure 1 in Hacking & Guthrie, 2008: 75). According to the authors, SA should at least include attention to ESE pillars and possibly even extend beyond that; it should integrate various tools and techniques in the assessment process; and it should be oriented towards enhancing benefits rather than merely mitigating negative impacts. Although this framework provides a basic understanding of core SA responsibilities, it only concentrates on the conceptual understanding of the above-mentioned ESE areas, and does not go into greater depth beyond that, which is a necessary part of this research. A framework that provides in-depth understanding of aspects that should be included in an assessment process is important to conducting an in-depth analysis of the *Checklist* and in generating recommendations for improvement.

The second notable SA framework is one developed by Pope, Morrison-Saunders and Annandale (2004; 2005), Australian researchers who are among the most active contributors to the development of SA worldwide. Their framework includes three different approaches to SA, derived from existing EA frameworks: 'EIA-driven integrated assessment'; 'objectives-led integrated assessment'; and 'assessment for sustainability.' The first two models reflect characteristics of EIA (project-focused) and SEA (focused on policies, plans, and programs), however, the third model is novel. EIA-driven integrated assessment follows the procedural steps of EIA, thus, a proponent initiates it when project is already at the stage of a formal proposal (Pope et al., 2005). It attempts to determine the significance of predicted ESE impacts of the proposal by comparing these to predicted environmental conditions within the proposal (Pope et al., 2004). 'Objectives-led integrated assessment' is fashioned after SEA, thus, a proponent initiates it before an actual development proposal has been drafted. In this type of the assessment, certain ESE targets are already set and the purpose of the assessment is to evaluate how well various policy, plan, program scenarios 'measure up' compared with one another (Pope et al., 2004). In case of assessment for sustainability, the novel third approach, instead of trying to understand whether the development is moving towards sustainability, it tries to understand

whether the proposal simply is or is not sustainable, in light of present conditions. This approach views sustainability as a societal state that needs to be achieved; thus, it evaluates whether or not the proposal fits into that image (Pope et al., 2005).

Robert Gibson, professor of environment and resource studies at the University of Waterloo, Canada, designed the third notable SA framework in the field of EA. Gibson et al. (2005: 11) describes this framework as follows:

> We have…chosen here to propose a slightly different approach—one that avoids constructing the edifice of sustainability criteria on the conventional pillars ... The alternative, which is perhaps only superficially different from the pillar approach, is to begin not with categories based on the usual areas of concern (ecological, social, etc.) but with a list of the key changes needed in human arrangements and activities if we are to move towards long term viability and well-being.

Gibson's framework suggests that a sustainable undertaking should simultaneously contribute to the seven criteria, which are: "socio-ecological system integrity"; "livelihood sufficiency and opportunity"; "intragenerational equity"; "intergenerational equity"; "resources and efficient resource use"; "socio-ecological civility"; "democratic governance and precaution and adaptation"; and "immediate and long-term integration" (Weaver & Rotmans, 2006). Thus, the framework goes beyond the 'pillars' approach, which has proven to be "more useful for categorizing and separating than for linking and integrating" (Gibson et al., 2005: 94).

The framework developed by Robert Gibson was chosen as the basis for this investigation because it is most detailed, robust and precise of the three with respect to describing essential criteria for undertaking an SA process. Gibson's framework is the only one among those described above that goes beyond conceptual information and actually has a list of practical criteria/topics that should be included within an assessment. As was described earlier, Gibson's criteria are not based on the 'pillars' approach (which can create tension and trade-offs between the categories, and also makes it difficult to describe interrelations between and among the categories); it also covers a wide variety of biophysical and human environment considerations, including interactions across both realms. Conceptually, it extends much further than simply saying SA should address ESE criteria: it actually describes specific practical criteria within each pillar, providing essential foundational guidance for this research. Using the Gibson SA framework, it is possible to systematically and thoroughly analyze the current Saskatchewan SA Checklist for strengths and deficiencies. Chapter 4 provides further detail on the Gibson framework and how it is utilized in this study. In summary, while the SA framework

development in the field of SA is still in its early days, the Gibson framework and others are well developed enough to have led to a burgeoning SA practice in several countries.

2.2.3 SA Practice

The following section summarizes progress in SA application in Canada, England, Australia, and South Africa, the four areas in the world with an established SA practice (Bond et al. 2012). As was mentioned earlier in the introduction to this chapter, development of SA is not limited to academic or research circles, which has led to many 'SA-like' applications. However, since this research is situated within the field of EA, this review focuses on SA applications within EA only, following the Rio summit in 1992 and more precisely following the establishment of *Bellagio Principles for Sustainability Assessment* in 1996.

In Canada

Although Canada is one of the leading countries in developing SA methodology, that methodology has not yet been embedded in federal or provincial legislation or regulations. In Canada, regardless of the fact that the second purpose of *Canadian Environmental Assessment Act* (Minister of Justice, 2010: s.2[a]) is "to encourage responsible authorities to take actions that promote sustainable development and thereby achieve or maintain a healthy environment and a healthy economy", so far sustainability-based assessments have been carried out as a response "to the peculiar demands of case and jurisdictions" (Gibson, 2001: 3), and not more broadly. Regarding the scope of application of SA in Canada, Gibson (2008: 69) states,

> Movement towards consistently broad, well integrated and forward looking approaches to important decisions in Canada is still in its early stages. Sustainability-based evaluations and decisions remain primitive and are not yet firmly entrenched, even though the first initiatives appeared decades ago.

Although Canada does not have a mature system for integration of sustainability-based criteria into the formal assessment system, it does have a number of successful *de facto* applications of SA (Gibson, 2013). None of them meets all the established criteria for SA, however, some cases are considered to be the most prominent examples of SA application that exist in the world (Gibson, 2013).

The first major success, described earlier in Chapter 1, was the 2001 Voisey's Bay nickel mine impact assessment. Through SA, the proponent, governments, and stakeholders involved were able to design a development strategy that would ensure social and economic benefits to

local native communities, as well as reduce the potential for negative environmental impacts (Gibson, 2013). Whites Point quarry and marine terminal environmental assessment, conducted in 2004-2007, is another case of successful SA application in Canada and quite similar to the Voisey's Bay case. A government-appointed panel of three assessed a proposal for a basalt quarry located at Whites Point on Digby Neck, Nova Scotia. Based on the assessment, the panel concluded that this project would economically favor the proponent, rather than bring socio-economic gains to the local communities and thus it should not be approved (Whites Point Quarry Review Panel, 2007). Gibson (2013) believes provincial and federal governments complied with the panel's recommendations and rejected the proposal. The Kemess North copper-gold environmental assessment is a third Canadian example whereby a panel was asked to specifically concentrate on sustainability criteria in their appraisal of the proposed project's merits and shortcomings (Gibson, 2013). The Kemess North mine developed was proposed in North Central British Columbia as an expansion of an existing mine: Kemess South. The panel concluded the socio-economic benefits of the project would be outweighed "by the risks of (other) significant adverse environmental, social and culture effects, some of which may not emerge until many years after mining operation cease" (Kemess North Panel, 2007: 245). Once again, the government obliged the panel's recommendations and denied approval for the mine expansion application.

The most advanced application of SA within Canada so far was for a Mackenzie gas gathering and pipeline project in 2004 (Gibson, 2011). Initially, the project was proposed in 1970s and was put on hold due to unresolved land claim agreements between aboriginal groups and the Canadian government. When the project was re-assessed in 2004, a state-of-the-art SA was performed to assess environmental and socio-economic benefits of the project (Gibson, 2006b). The review panel concluded that the project had the potential to make a positive contribution to the region in terms of sustainability, but only if the government would adopt the recommendations provided by the panel (Mackenzie Panel, 2009). The panel recommended for the government to be cautious about cumulative effects and to control the pace and scale of the development, so as to make sure that the revenue from the project would contribute towards shifting to more economically sustainable livelihoods in the region. The project was once again put on hold, however, due to the unexpected development of new technology that made North American sources of gas close to core markets more accessible; thus the Mackenzie project

became economically unattractive. This case was an interesting one in SA development because it employed a new term to describe the benefits of a project: 'lasting net gains' was used to convey that lasting benefits of the project should not be outweighed by losses and risks (cases of trade-offs were mentioned earlier as one of the drawbacks of SA) (Gibson, 2006b).

In England

Sustainability assessment is still not imbedded in legislation processes in the great majority of the countries that already practice EA: in fact, only one country officially requires SA: England.[7] 'Sustainability appraisal'[8] practice in this country began in 1999. It was first used to assess local land use plans first and now is also used to evaluate national government policies (Therivel, 2013). Sustainability assessment is required for main types of spatial plans under the *UK Planning and Compulsory Purchase Act* (UK Government, 2004). The *European Strategic Environmental Assessment Directive* (European Parliament and the Council of the European Union, 2001) requires conducting environmental assessment of certain plans and programmes; however in this case, the word 'environment' refers not only to biophysical environment but also encompasses social and economical aspects, thus resembling SA application (Therivel, 2013). Currently, SA is being used to develop National Policy Statements for energy, ports, road and rail infrastructure, wastewater, hazardous waste, water supply and aviation (Therivel, 2013). Although, Therivel (2013) reports that 80 per cent of plans that underwent SA were improved as a result, such changes are of a minor character and not substantive. Thus, currently "sustainability appraisals act as a compendium of baseline data and documentation of the decision-making process, but have limited effect in the improving the plan"; nevertheless, UK planners believe SA "helped to document the planning process, encourage 'planning as planning is meant to be', and help planners to resist market pressure'" (Therivel, 2013: 139). Thus, it appears that although SA does fulfill the SEA Directive standards, as required, when it comes to achieving ideal standards set forth in the literature, SA in England is still far from satisfying such standards (Therivel, 2013).

[7] Required by Planning and Compulsory Purchase Act (UK Government., 2004) and the European Strategic Environmental Assessment Directive (European Parliament and the Council of the European Union., 2001).
[8] An equivalent term for sustainability assessment in England.

In Western Australia

In the Commonwealth of Australia, application of SA is most prevalent in the state of Western Australia (Pope & Morrison-Saunders, 2013). Although, this region is home to just 10 per cent of the country's total population, it is responsible for 44 per cent of Australian exports, mainly because of the exploration of minerals such as crude oil, natural gas, iron ore, gold, nickel, copper, etc. (Pope & Morrison-Saunders, 2013). According to Pope and Morrison-Saunders (2013), development of SA was successful in the state of Western Australia because of the willingness of government, proponents and communities to cooperate and experiment with this approach. The years 2002-2005 saw notable development in SA practice when it was applied to Gorgon gas development on Barrow Island, and South West Yarragadee Water Supply Development, near the city of Perth, Western Australia (Pope & Morrison-Saunders, 2013). Unfortunately, a change in prime minister in 2005 saw governmental support of SA stall, which substantially affected its progress.

Two of the most famous applications of SA in Western Australia were industrial projects, though one of the applications is considered to have been far more successful than the other. In the Gorgon gas development project on Barrow Island, environmental considerations were ultimately compromised in the name of socio-economic benefits, which is unfortunately one of the potential pitfalls of SA application. In comparison, a 2005 SA conducted internally by BHP Billiton was far more successful. It was done to select an optimal location for a proposed LNG (liquefied natural gas) processing plant. During an assessment, all ESE criteria were evaluated and public participation was an important part of the decision-process. Cost-benefit analysis was conducted only when an optimal site was selected, according to the social, environmental and risk factors. The result was that the site designated as 'optimal' according to environmental and social criteria also turned out to be the most cost-effective. Successful SA application in this case subsequently made SA quite popular among a number of organizations (including state-owned power and water utilities) for site selection. Even though SA is now quite widespread in Western Australia and supported by the government, there are still no formal requirements for SA, which means, "that each SA process is developed on a case-by-case basis in response to an identified need or opportunity" (Pope & Morrison-Saunders, 2013).

In South Africa

Retief (2013) states that although South Africa has a very developed EIA system and a rich history of application, the concept of SA *per se* does not exist within the country. This is because formal integration of sustainability principles within EIA became a widespread practice following the establishment of EIA in 1970s, thereby eliminating the need to establish a 'separate' assessment model, such as SA. Sustainability assessment has been achieved in principle in South Africa for the last two decades (Govender et al., 2006). Despite the fact that the government of South Africa developed a *National Framework for Sustainable Development* (DEAT, 2008) to outline sustainability definitions, principles and objectives, Retief (2013: 193) states that sustainability goals and "what sustainability means for EA decision making in practice" are still quite vague. Although some aspects of sustainability have been already integrated within EIA, "practice lags behind to date" (Retief, 2013: 190). South Africa is at the point where explicit actions should be taken to actively incorporate the existing mandate for sustainability in practice (Retief, 2013).

Thus, while there is sufficient evidence that SA concepts and practice have 'gained a foothold' in several countries and regions including Canada, numerous authors state that SA methodology is still under development and additional research and practical application is required to solidify it. Although Pope et al. (2005) suggest there is growing interest in SA around the world, the literature at present indicates that the application of SA is limited to mainly industrial projects in Canada (Gibson, 2002); land use plans in the United Kingdom (Bond & Morrison-Saunders, 2011); and large-scale regional and industrial development in Australia (Pope & Grace, 2006).

2.3 Making the Link between SA and Rural Community Development in Canada

2.3.1 The Sustainable Rural Community Development Agenda in Canada

According to Williams (1983), the word 'community' has been in the English language since the 14th century and generally means an organized society of people in one locality that share some common features or a sense of common identity. When it comes to defining *sustainable community development*, Bryden (1994b) conceptualizes the community as having a

capacity to regenerate and reproduce itself socially and economically and the potential for a future growth in economic, social, cultural and environmental fields. Similarly, Bryant (1995: 180) defines *sustainable community development* as "a process by which the community attempts to influence the processes affecting the various activities in the community in order to improve the quality of life of its residents in an enduring way through identifying and pursuing strategies that are compatible with the natural environment, socially and culturally acceptable, and economically feasible." Both of these definitions reflect the 'three-pillar' approach to SD adopted in this study.

Literature on sustainable community development is an important foundation for the current research. However, it is important to understand that sustainability of rural communities goes beyond just ensuring sustainability of certain sectors inside the community. Rural communities, especially in Canada, form a strong bond, or connections, with the surrounding environment and industries: this is because most rural communities are still resource-dependent and play an important role in providing 'central' services for their surrounding regions. Freshwater (2004: 33), a researcher within Brandon's University Rural Development Institute, MB, explains:

> Perhaps the major problem facing rural communities is a lack of recognition of the constraints the external environment places on their development prospects. Constraints come in many forms including: the physical environment and resource base of the community, the capacity of the local government to shape the community which is based upon the resources and authorities granted it by higher level of government, and most importantly, the broader economy.

Therefore, in the Canadian context, rural communities themselves are not completely autonomous, and looking at them in such a way will not provide a complete picture on the state of research in SD in rural centres. Thus, research on sustainable rural strategies is reviewed in this section, taking rural communities (RCs) as just one key subject in this regard.

One of the few existing definitions for 'sustainable rural communities (SRCs)' was generated during a seminar held at the University of Guelph: "a 'Sustainable rural community' is one which has a capacity to reproduce itself and evolve in economic, social, cultural and ecological senses without detracting from the possibilities of such reproduction in other communities" (Bryden, 1994a: 2). There is quite limited information particularly on sustainable planning in rural centres. When it comes to planning for sustainability in rural centres, information is either general or adapted from lessons drawn from bigger urban centres (Markey et al., 2010). There is a tendency to generalize principles of SD and apply the same principles to

rural centres as to big urban ones; this tendency leaves aspects of sustainable rural development unaddressed (Markey et al., 2010). The main reasons for this are a current lack of agreement on how rural sustainability has to be pursued and a lack of understanding of the importance of rural centres (Markey et al., 2010; Freshwater, 2004).

Rural sustainability is still a vague concept, which results in a number of interpretations of how it can be developed (Markey et al., 2010). Sustainability of rural areas is often closely linked to the concept of rural development. Markey et al. (2010: 5) defines this concept in the following way: "Progress towards sustainability is determined by the extent to which rural communities can mobilize local capacity to ensure that development is economically viable, socially appropriate, and ecologically sound." This approach is based on the process of defining proper and balanced objectives for the utilization of rural developmental assets, which will enable vitality of local communities (Markey et al., 2010). Local Agenda 21 has defined another approach to sustainable rural community development. It is based on the idea that individual financial well-being can be achieved without further extensive utilization of natural resources and degradation of the environment (UNCED, 1992). This approach also emphasizes the importance of local governments in promoting sustainable living in their communities (Markey et al., 2010). The third approach is based on the idea of post-productivism, the idea of rural communities shifting from primary resource production to more diversified economic activities (Markey et al., 2010). Recent economic and social restructuring has shaken and challenged rural well-being and it is still unclear what is waiting for rural areas in the future. The path to achieving sustainable rural futures is unclear: sustainable rural development can bring many benefits, but the process of attaining it does not seem to be an easy one (Markey et al., 2010).

Research on sustainable rural community development faces a major barrier, related to a perceptual lack of importance of sustainable rural development (Markey et al., 2010). One of the strategies that is still quite commonly pursued for rural development is the attraction of large resource intensive industries; thus, sustainability principles that oppose this approach might be perceived as a thread to rural economic development (Markey et al., 2010). According to Markey et al. (2010), opposing particularly this traditional approach of rural development can create significant resistance in the application of SD practices. Furthermore, in rural Canada, environmental conditions are quite favorable, meaning that environmental pollution and natural disasters are not a prevailing concern and that environmental issues can appear quite irrelevant at

the moment (Markey et al., 2010). Due to the fact that natural resource extraction is the main driver of development within rural areas in Saskatchewan, there may be a need for an alternative interpretation of sustainability that does not directly oppose an economic growth path, in order to overcome current barriers of implementation.

2.3.2 Toward SA for Municipalities

Assuring the prosperity of rural communities has long been a challenge for federal and provincial governments in Canada.[9] "Viable and sustainable rural communities are important to the vitality and prosperity of all of Canada, and the Government of Canada is committed to the economic and social renewal of rural Canada that will increase its vitality and prosperity" (Rural and Co-operatives Secretariat, 2003: 1). However, this intent in many cases just stays as 'an intent' and does not result in anything tangible (Freshwater, 2004). "In part this reflects the declining political influence of rural interests, but it also reflects an inability to articulate what constitutes a good rural development strategy" (Freshwater, 2004: 29). Freshwater (2004) states that historically, the federal government played the primary role in developing rural policy and rural residents still trust the federal government to solve their issues. However, due to the changed nature of economy, where government plays a role of regulator rather than a driving force in the economic development of a country, the capacity of the federal government to address rural problems has decreased (Freshwater, 2004).

One of the promoters of rural development is the Rural Secretariat at Agriculture and Agri-Food Canada. It launched programs such as: *Community Development Program, Building Rural and Northern Partnerships, Models for Rural Development and Community Capacity Building, Canadian Agricultural Rural Communities Initiative*, etc. (Rural Secretariat, 2011). *Canadian Rural Partnership* is another program launched by this agency to strengthen connections between rural communities (Rural and Co-operatives Secretariat, 2003). Since the establishment of the secretariat, significant progress was achieved in increasing the importance of rural Canada in decision-making at the national level. The Government of Canada is presently

[9] Only the province of Ontario invested more than $167 million since 2013 in the Rural Economic Development (RED Program), mostly to "help rural communities remove barriers to community development and promote economic growth to support sustainable rural economies and regions, while developing the capacity, tools and flexibility they need to become stronger, more prosperous communities" (Ontario Ministry of Rural Affairs, 2013: 4).

collaborating with provincial and territorial governments to develop a *Federal Framework for Actions* that also focuses on the creation of sustainable and diversified communities that contribute significantly to the national economy (Canada's Rural Partnership, 2009).

The federal government subsidizes many initiatives that are aimed at helping rural communities to adapt to new conditions and create a more sustainable environment (FCM, 2009). The government assigned $13 billion over a 10-year period to resolve an infrastructure deficit that is booming in Canadian communities; the funding should be linked to integrated sustainability community plans and should subsequently support sustainable planning in communities (Markey et al., 2010). Between the years 2000-2003, the Canadian Rural Partnership project assigned $12 million to support 321 projects aimed at promoting SD (Rural and Co-operatives Secretariat, 2003). In 2002, the Rural Development Initiative provided $2.8 million in support of 127 projects in rural and remote communities, to create sustainable community strategies (Rural and Co-operatives Secretariat, 2003). Additionally, the Rural Secretariat has launched an assessment called *Renewable Energy Policies for Remote and Rural Communities* (Rural Secretariat, 2009). The *Sustainable Communities Initiative,* launched by Natural Resource Canada, attempts to help rural communities manage their assets with the help of modern mapping technologies. In 2009, Natural Resources Canada (NRCan) and Canada Mortgage and Housing Corporation (CMHC), under the Government of Canada's ecoACTION initiatives, launched *The Equilibrium Communities Initiative* to support SD of selected neighborhood projects (Government of Canada, 2011).

The Government of Saskatchewan is supporting various sustainability practices on a smaller scale. It has established the *Go Green Fund* that is designed to support homeowners, businesses, educational and medical facilities in establishing sustainable practices in day-to-day life (Government of Saskatchewan, 2007). Those practices include recycling, energy efficient appliances, energy efficient home renovations, etc. Also, the University of Regina houses a *Centre for Sustainable Communities* that is conducting research on integrating social and environmental policy development that would support development of healthy and sustainable communities (Centre for Sustainable Communities, 2007). Some sustainability initiatives are also emerging at the local level: for example *Craik Sustainable Living Project* is an eco-village that is beginning to flourish in southern Saskatchewan (Craik Sustainable Living Project, 2009).

Despite all this, evaluative tools capable of supporting SD in small towns are only beginning to emerge. Rio Summit in 1992 called for tools to evaluate SD; this call resulted in an attempt to apply different types of tools for that purpose, whether they were directly designed for evaluating SD or not. There are a number of tools designed to evaluate various aspects of SD (see Table 2.2).

Table 2.2 Tools applied in evaluating the sustainability of an initiative.

Type of Tool	Specific Tools	References
Monetary evaluation tools	Contingent Valuation Method (CVM)	(Mitchell & Carson, 1989) (Partidário & Clark, 2000)
	Hedonic Pricing	(Dixon et al., 1996; Goodman, 1978)
	Travel Cost Method	(Clawson & Knetsch, 1966)
	Cost Benefit Analysis (CBA)	(Eckstein, 1958)
	Life Cycle Cost Assessment	(Vigon, 1994)
Ecological Simulation Models	Puget Sound Regional Integrated Model (PRISM)	(Alberti & Waddell, 2000)
Indicators	Human Development Index	(United Nations Development Programme, 1990-1999)
	The Environmental Sustainability Index	(Global Leaders for Environment Tomorrow Task Force, 2001)
	The Index of Sustainable Economic Welfare	(Cobb, 1989)
	Adjusted Net Savings	(Pearce & Atkinson, 1993)
Multi-Criteria Decision Aiding (Analysis) (MCDA)		(Shmelev & Rodríguez-Labajos, 2009)

Note: within SA, as practiced in the field of EA, the most common approaches are MCDA (Pope & Morrison-Saunders, 2013) and indicators (Devuyst, 2000).

However, very few of the tools mentioned in Table 2.2 have been successful in measuring sustainability in a holistic and integrated manner that would take into account simultaneously all the dimensions of sustainability, be applied on an appropriate scale, consider impacts throughout an optimal time span, and pursue objectives that would be beneficial to multiple parties – thus satisfying all the primary principles of sustainability (Gasparatos et al., 2008).

More specifically with respect to community development, recent years have shown a flurry of activity in the development of tools to evaluate SD. These are mostly checklists incorporating a wide variety of development indicators; an approach that has become extremely popular when evaluating SD of cities (Devuyst, 2000), though not necessarily towns. Table 2.3 lists just some of the checklists that have been developed for evaluating the sustainability of municipalities in Canada in the last decade.

Table 2.3 Sustainability assessment tools developed for evaluating sustainability of a community.

	Name of Checklist	Place of Application	Reference
Tools Developed for all Communities within a Province or a State	*Municipal Sustainability Self-assessment Project*	Newfoundland and Labrador	(Municipalities Newfoundland and Labrador, 2003)
	Municipal Viability Issues	Alberta	(AAMDC, 2009)
	Sustainability Checklist for Municipalities	Saskatchewan	(Saskatchewan Ministry of Municipal Affairs, 2009)
	Municipal Government Sustainability Self-Assessment Tool	Saskatchewan	(Saskatchewan Ministry of Municipal Affairs, 2011)
	Colorado Community Sustainability Guide	Colorado, USA	(Colorado Department of Local Affairs, 2009)
Tools Developed for a Specific Community	*City of Port Coquitlam: Sustainability Checklist*	City of Port Coquitlam, BC	(City of Port Coquitlam, 2005)
	Kelowna Sustainability Checklist	Kelowna, BC	(City of Kelowna, 2007)
	North Okanagan Sustainability Checklist	North Okanagan, BC	(Social Planning Council for the North Okanagan, 2007)
	A Checklist for Sustainable Planning and Development in Dawson Creek	Dawson Creek, BC	(City of Dawson Creek, 2009)

In the past couple of years, the Government of Saskatchewan released two checklists aimed at evaluating the sustainability of a community: *Sustainability Checklist for Municipalities* in 2009 and *Municipal Government Sustainability Self-Assessment Tool* in 2011 (see Appendix A1 and Appendix A2). These were developed by the Ministry of Municipal Affairs that is part of the provincial government and whose main responsibility is to ensure 'strong system of municipal government' (Saskatchewan Ministry of Municipal Affairs, 2010). One of the objectives of this ministry is to ensure that municipalities provide sustainable municipal *infrastructure* and *services* (Saskatchewan Ministry of Municipal Affairs, 2010). Thus, reflecting the mission of the ministry itself, the above-mentioned tools are designed to evaluate municipal services and only partially the sustainability of a community itself. Additionally, these tools were designed for communities of all sizes, ranging from big urban centres to rural municipalities, without considering some of the unique aspects of each type of these communities.

The 2009 *Checklist* uses a Yes/No approach for the assessment and is divided into five major components, encompassing such areas as: population and sustainable economic growth; community council; the ability of a municipality to provide services while satisfying local legislations; the ability of a municipality to provide services in a cost-effective manner; and all

while staying within an available budget. Results are calculated for each component, and finally some suggestions are provided for each section on what can be done to improve the current situation. The related 2011 *Self-Assessment Tool* is an interactive online tool that provides a more complex evaluation system of various sectors of municipal services. It was developed "to assess the sustainability of [a municipality's] municipal operations and help [the municipality] identify opportunities for improvement" (Saskatchewan Ministry of Municipal Affairs, 2011). It includes such areas as: administration; demographics and economic trends; finance and financial management; governance; infrastructure; partnerships; public safety; and service delivery.

These tools are meant to provide an evaluation system to grade various areas of municipal services and to suggest solutions for areas that need improvement (Saskatchewan Ministry of Municipal Affairs, 2011). The output of the tools is intended for use by municipalities and is not necessarily shared with any higher government (Saskatchewan Ministry of Municipal Affairs, 2011). Because the Ministry of Municipal Affairs created the tools and its main goal is to ensure that municipalities provide all the necessary services to the communities, the suggested assessment procedure is mainly centred on economic well-being, good governance, and the provision of infrastructure and services. Although this is an important first step, based on an initial review the 2009 *Checklist* and the principles of Gibson's SA framework, some important areas of focus appear to be missing. These include: "socio-ecological system integrity"; intra-generational equity; precaution and adaptation; resource maintenance, etc.

At present, it is clear there are few initiatives in Saskatchewan designed to promote sustainable community development, whether rural or urban. In short, forms of integrated assessment have yet to work their way into public policy and planning in support of community development. And little work has been done to lay a serious foundation for making development more sustainable or for developing scientifically proven methodologies for assessment tools that would assist in that transition. The use of SA tools that do not comply with normative ideals, such as those being developed in the field of EA, may do more harm than good in the long term. And this is a problem that needs addressing if SD is a goal to be taken seriously. For example, using SA tools that adopt a simple "three-pillars" approach, as the 2009 Checklist does, without more deeply considering normative SA criteria or the developmental context, runs the risk of making unacceptable 'trade-offs' among the pillars, or of simply missing key relationships among the pillars that also need to be considered .

2.4. The Research Gap: The Need for More Fully Developed SA Tools Applicable to the Small Town Context

Based on the foregoing, SA is an evaluative framework/tool that has great potential to advance sustainability in different areas of human development. One area in need of additional research additional is sustainable community development, and particularly rural centres which are still a key aspect of Canada's continued economic, environmental, and social success, as a nation (Rural and Co-operatives Secretariat, 2003). To date, a great deal of attention has been paid to sustainable urban development, but much less to the sustainability of rural centres and their surrounding regions. Pressing crises such as continued population decline, and a continued focus on intense resource extraction in rural Canada, and especially in rural Saskatchewan, suggest that it is time to develop strategies and tools to help rural communities accommodate social, economic and environmental changes and move toward a more sustainable and bright future.

Sustainability assessment is one of the tools that can assist in making this shift, by helping to evaluate SD issues of small communities. Unfortunately, while there have been a handful of attempts to apply SA to community planning, academic literature in this area is quite scarce. While there has been a proliferation of SA-like evaluative tools (checklists) in community planning in Canada, development of those tools is mostly initiated by local governments and is rarely designed by SA professionals according to such criteria as are contained in Gibson's SA framework. Such is the case in Saskatchewan, where, although the government has issued an SA checklist and online self-assessment tool for municipalities, those tools clearly lack some of the core principles of 'good' SA and their one-size-fits-all nature is insensitive to the unique challenges of SD in small rural communities. Overall, this literature review demonstrates there is clear need to (1) pay greater attention to the SD challenges of rural areas in Canada and of rural communities in particular; (2) advance the application of SA in the community planning sector, generally speaking; and (3) in Saskatchewan, develop an SA tool that is both founded on normative principles of 'good' SA and that is sensitive to the context of small town planning and the needs of rural centers. Chapter 3 outlines a methodology to make research progress in these areas.

CHAPTER 3

METHODOLOGY

3.1 Introduction

Qualitative research methods were adopted in this study as they are designed to understand a subject in depth, and to build subjective understanding of an existing social reality in the area of the research (Bazeley, 2007; Dwyer & Limb, 2001). Following the initial literature review to establish the research gap, methods used in the study include a document review of existing SA tools for municipalities and two rounds of semi-structured interviews; both conducted with small town administrators. The relationship between the research objectives and supporting methods is illustrated in Figure 3.1. Following a description of the study area in Section 3.2, each of the study methods is explained in greater detail.

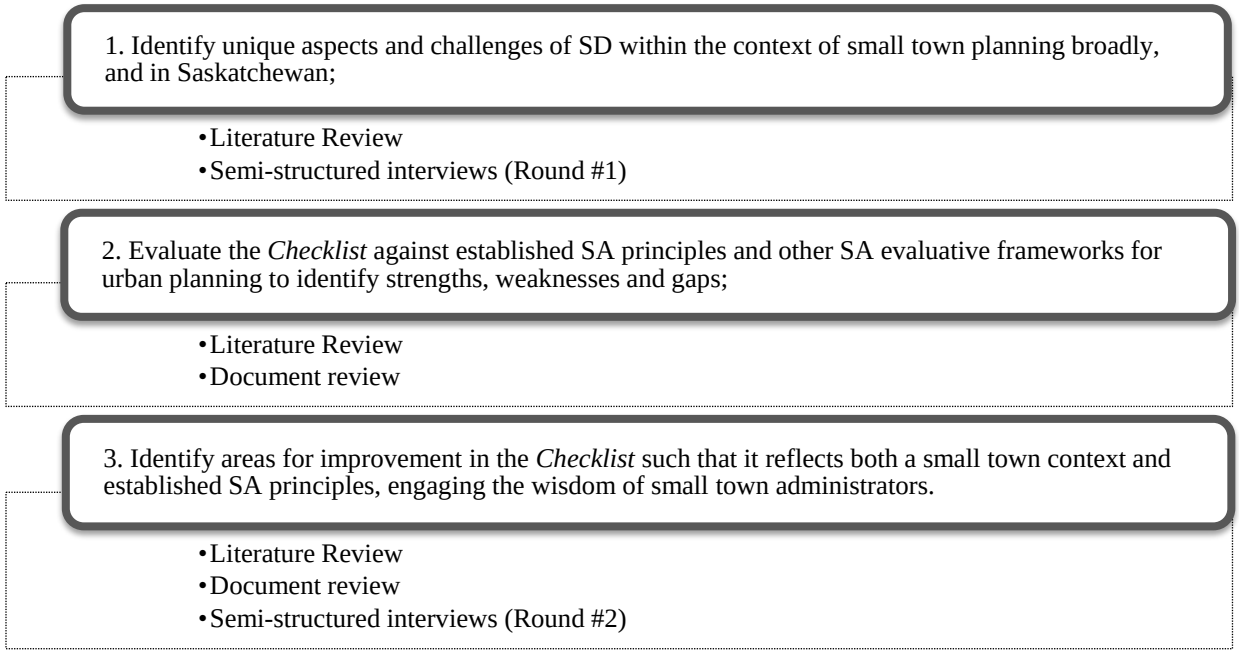

Figure 3.1 Research objectives and supporting methods.

3.2 The Study Area

For several decades in the early part of the 20th century, Saskatchewan was predominantly a rural province with the majority of its population living in rural centres and

rural areas, which created a wide network of rural communities (Dale, 1988). Presently, Saskatchewan has 16 cities,[10] with Saskatoon and Regina being the two main urban centres with populations of 222,189 and 193,100 people, respectively (Statistics Canada, 2012) (see Figure 3.2 on next page). Although, the province's population is now predominantly urban[11], still almost 43% of the total population lives in small towns[12] and rural areas (Human Resources and Skills Development Canada, 2012). According to the *2011 Census of Canada* (Statistics Canada, 2012), Saskatchewan has 147 towns with a combined population of 151,205 people; 306 villages with a combined population of 48,181 people; rural areas with a total population of 174,585 people; and an additional 70,587 people living in Indian reserves, northern hamlets and in unorganized and crown colonies.

Saskatchewan is considered to be a resource-based province, with the majority of the provincial economy currently fueled by resource extraction. Almost 95% of produced goods are derived from the basic resources located in the province (grains, livestock, oil and gas, potash, uranium, wood, and their refined products) (Phillips, 2007). Saskatchewan's total land mass is 651,900 km^2, which includes diverse environmental regions such as the prairies and boreal forest (Phillips, 2007). While Saskatchewan is one of the main agricultural provinces in Canada, with more than 10% of its total working population employed in agriculture (Statistics Canada, 2011a), it also contains major deposits of potash, uranium and oil, within its borders (Saskatchewan Mining Association, 2011). Resource extraction became a dominant economic development strategy, in recent years. Saskatchewan, as a traditionally agrarian province, and currently a province with high resource extraction potential, developed a large number of resource dependent communities that historically provided important services to the surrounding territories (Dale, 1988).

[10] According to Statistics Canada, a city is a geographic area with a population of 5,000 people and above.
[11] 67% in 2011, according to Human Resources and Skills Development Canada (2012).
[12] Statistics Canada recommends that the appropriate definition of "rural and small town" should be developed, according to the question at stake. However, a benchmark definition of "rural and small town" in Canada is "the population living in towns and municipalities outside the commuting zone of larger urban centres (i.e. outside the commuting zone of centres with a population of 10,000 or more)" (du Plessis et al., 2001).

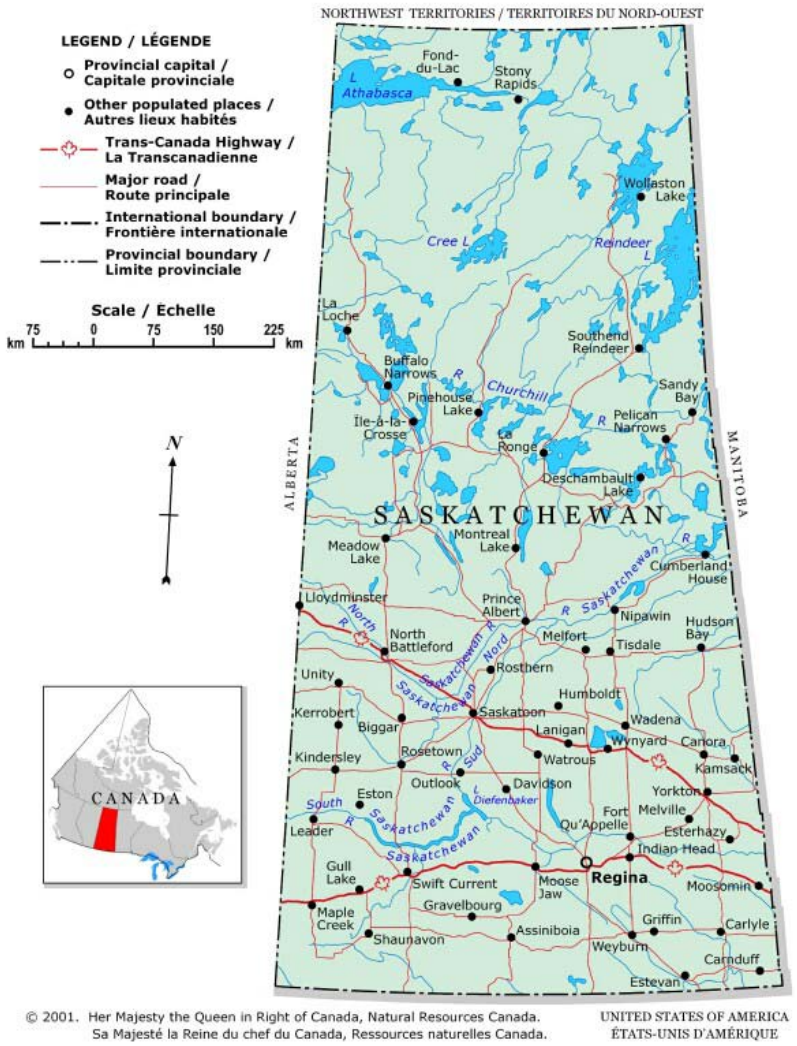

Figure 3.2 The province of Saskatchewan and its main urban and rural centres (Natural Resources Canada, 2003).

The vitality and importance of rural centres in Saskatchewan, as with most of the rural centres in developed countries, were affected over the years by such factors as: industrialization of industries; centralization of government and services; weakening of resource-based industries; urbanization; international trade; and political agendas supporting the development of big urban centres (Fullerton, 2010; FCM, 2009). Saskatchewan has been experiencing a decline of population in rural areas for decades: Statistics Canada reported that the population in predominantly rural[13] areas has declined 8% since 1981 (Bershiri et al., 2004). The Federation of

[13] According to OECD (2010) 'predominantly rural' regions are those that have more than 50% of its population residing in 'rural communities'.

Canadian Municipalities points out that if the 'rural crisis' related to population decline, which began in 1920s, is not addressed by government, it will continue to accelerate (FCM, 2009).

There is no single definition of the term 'rural'; its meaning depends on the purpose of the organization or department that uses it (Flora et al., 1992). As such, there are number of ways to classify an area as either rural or urban: by size, population, density of population, etc. (du Plessis et al., 2001). The U.S. Bureau of the Census made the first distinction of a rural area by size in 1874. According to it, rural areas consist of open countryside or towns located outside urbanized areas, with a total population of no more than 2,500 inhabitants (Flora et al., 1992). Statistics Canada defines both rural areas and small towns as any community or area with less than 10,000 people in population and with less than 50% of them commuting to a big urban centre (Fairbairn & Gustafson, 2006). Distinguishing a landscape as either 'urban' or 'rural' is becoming outdated, however. A more modern notion is to define census metropolitan areas (CMAs) and census agglomerations (CAs)[14] and to define the rest of the landscape as non-metropolitan areas (Malenfant et al., 2007). Currently Saskatchewan has two CMAs, which are the Regina CMA and the Saskatoon CMA. This study adopts the definition of rural areas provided by the U.S. Bureau of the Census, blended with the modern concept of CMAs and non-metropolitan areas. In other words, in this study, 'small towns' are considered to be those that have a population of less than 2,500 inhabitants and that are not within commuting distance to major CMAs or CAs (i.e. Saskatoon or Regina).

3.3 Literature Review

An initial literature review was performed to (i) understand the state of research and current conditions in the related areas of investigation; (ii) identify an appropriate SA framework upon which to base this investigation (the Gibson's 2008 framework), and (iii) collect supporting information for data analysis and discussion. As noted in Chapter 2, research and development in the area of SA is not limited to academic or scientific circles: active development is also happening within industries, local communities and organizations. Moreover, while the development of tools for evaluating SD started to occur long before normative SA frameworks

[14] In order for a municipality to be considered a part of CMAs or CAs, it should be strongly connected to the urban core by the amount of people commuting to it for employment purposes.

were established, these earlier-developed tools do not fall under the purview of EA. In this study, the initial literature was conducted only on the publications released since the official introduction of SA as part of the EA family of tools in the late 1990s (this was done in order to avoid speculation on which material and tools could have potentially belonged to SA). Literature consulted primarily consists of books and internationally peer-reviewed articles, from journals such as *Impact Assessment and Project Appraisal*; *Environmental Impact Assessment Review*; *Journal of Environmental Assessment and Policy*; *Agriculture, Ecosystem and Environment*; and *Environment, Development and Sustainability*. Major topics of enquiry were: SD; sustainability rural community development; sustainability assessment (SA); and evaluation tools for both SD and SA.

3.4 Document Review

Scott (2004: 281) classifies 'documents' as any physically embodied text either in written, audio or visual form, such as "newspapers, diaries, stamps, directories, handbills, maps, photographs, paintings, gramophone records, tapes, reports and computer files." Such documents are generally either produced by a private organization or by a government (Scott, 2004). As a method of qualitative inquiry, document review typically involves systematic analysis of a defined set of published works, based on a limited set of criteria or objectives (Gunn personal communication, 2012; Patton, 2002). In this study, the documents reviewed consisted of reports produced by Canadian and international municipalities. Specifically, an in-depth review of 26 SA 'tools' in the form of sustainability checklists, monitoring plans, development plans, and collections of sustainability indicators (listed in Table 3.2) was carried out to collect specific information on: (i) whether there are any SA tools specifically developed for small towns; (ii) measurable indicators of SD in an urban or rural context, reflecting the core elements of the SA theoretical framework, introduced in Chapter 4; and (iii) whether there appear to be best practices for SA, in either urban or rural contexts. Because a theoretical framework by definition does not address implementation, this information was necessary to conduct subsequent interviews with town administrators, who were asked how to enhance the *Checklist*, and whether SA could be performed in their town.

Table 3.1 Reviewed Canadian and international SA tools.

	Canadian Sources	International Sources
1	A Checklist for Sustainable Planning and Development in Dawson Creek (City of Dawson Creek, 2009)	Assessing Northern Areas' Progress Towards Sustainability: Baseline Report (IUCN Northern Areas Programme., 2003)
2	A Sustainability Checklist (Social Planning Council, North Okanagan, n.d.)	Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments (Colorado Department of Local Affairs, n.d.)
3	A Sustainability Planning Toolkit for Municipalities in Ontario (Blackstone Corporation & R.J. Burnside & Associates Ltd., 2008)	Community Sustainability Assessment (The Global Ecovillage Network, n.d.)
4	Alberta Municipal Sustainability Self-Assessment Toolkit (Alberta Municipal Affairs, 2010)	Indicators of Sustainable Development: Guidelines and Methodologies (United Nations, 2007)
5	Banff Community Plan (Town of Banff Planning and Development, 2009)	Sustainability Assessment Tool - Southwestern Pennsylvania: Guidance for Municipal Leaders, Developers and Concerned Citizens (Sustainable Pittsburgh, 2008)
6	Canmore Community Monitoring Program: 2010 Final Report (Biosphere Institute of the Bow Valley, 2011)	Sustainable Development Indicators: Overview of Relevant FP-funded Research and Identification of Further Needs (Adelle & Pallemaerts, 2009);
7	City of Port Moody Sustainability Checklist (City of Port Moody, n.d.)	Zambia NBSAP Monitoring System (Guveya, Kokwe, & Hachileka, 2001)
8	Indicators for Sustainable Communities: A Case Study Scan of Performance Indicator Initiatives. Prepared for the City of Victoria (The Sheltair Group, 2007)	
9	Municipal Sustainability Self-Assessment Tool Kit (Municipalities Newfoundland and Labrador, 2009)	
10	Municipal Viability Self-Assessment Tool Kit (The Federation of Prince Edward Island Municipalities (FPEIM, n.d.)	
11	Salt Spring Island Sustainability Checklist (Salt Spring Island, 2009)	
12	Smart Growth Development Checklist (City of Vernon, n.d.)	
13	Southeast False Creek Monitoring Strategy. City of Victoria (The Sheltair Group, 2007)	
14	Sustainability Checklist: Commercial or Multi-unit Development (no Rezoning) (City of Kelowna, 2007)	

Table 3.1 Reviewed Canadian and international SA tools *(Continued)*

	Canadian Sources	International Sources
15	Sustainability Checklist: For Reasoning & Development Permit Applications (City of Port Coquitlam, 2006)	
16	The Regional Growth Strategy Monitoring Program for the Capital Regional District (CRD Regional Planning Services & The Sheltair Group, 2005)	
17	The state of the debate on the environment and the economy: Environment and sustainable indicators for Canada (NRTEE, 2003)	
18	Town of Comox Sustainability Checklist (Town of Comox, n.d.)	
19	Whistler 2020 (Whistler Centre for Sustainability, 2006)	

3.5 Semi-Structured Interviews

To support research objectives #1 and #3, semi-structured telephone interviews were performed with representatives of small towns in Saskatchewan. Interviewing is the most commonly used method in qualitative research (Bryman & Teevan, 2005). According to Hay (2010), interviews can be used for a number of purposes, including filling gaps in existing knowledge that cannot be done with other methods, understanding complex situations, and collecting a variety of opinions on a situation. Semi-structured interviews featuring open-ended questions allow for a researcher to explore a wide area of information that generates rich data and allows him or her to understand the respondent's viewpoints and perceptions (Dunn, 2010). It is presumed during semi-structured interviews that the researcher will employ either an interview guide or an interview schedule with questions that will direct the interview (Dunn, 2010). Copies of the interview schedules used in this research are provided in Appendix B1 and B2.

Telephone interviews were chosen over face-to-face interviews, because they are believed to have some distinct advantages including that: they are inexpensive; they avoid extensive travel that would be required when respondents are geographically dispersed; and; they reduce potential bias, since a respondent is not affected by the physical presence of an interviewer and is not prone to give an answer that seems to be more desirable to an interviewer (Lavrakas, 2009; Bryman & Teevan, 2005). Some of the disadvantages of the phone interviews are that: interviewing is not possible, if respondents are not contactable by phone; some interviewees have hearing impairments; respondents are less likely to talk about sensitive issues over the phone; and body language cannot be observed and addressed by the interviewer (Bryman & Teevan, 2005; Lavrakas, 2009). Taking into account that potential respondents for this research are geographically dispersed across Saskatchewan, thus making face-to-face interviewing more expensive and time consuming; and that most of the disadvantages are not applicable, given the context of the research, it was decided to carry out interviews over the phone.

Administrators or officers in charge of planning and community development in small towns of Saskatchewan were targeted as potential participants in the study. To be selected for this study, a town had to meet all the following criteria:

- have a population of between 1,000 to 2,500 people, so it is considered a rural centre rather than urban;
- have a town hall or administrative office that oversees town planning;
- have a town administrator who could assist in the study; and
- is located relatively far away from a large urban centre (more than 100 km), so that the percentage of people commuting daily to the urban centres is low.

Town selection was made among the communities of Saskatchewan listed under the 'Towns' section of *Saskatchewan Population Report, 2006* (Statistics Canada, 2007b). According to the criteria mentioned above, 27 towns were deemed suitable for participation in the study. These are listed alphabetically in Table 3.2.

Table 3.2 Small towns in Saskatchewan that were contacted for the research and for their participation in Rounds # 1 and 2 of the interviews.

Towns Invited to Participate in the Research Study	Gave an Interview in Round 1	Gave an Interview in Round 2
Assiniboia	•	•
Biggar		
Canora		
Carnduff		
Carlyle	•	•
Creighton	•	•
Esterhazy		
Foam Lake		
Gravelbourg	•	
Hudson Bay	•	•
Kamsack		
Kerrobert		
Lanigan		
Langenburg	•	•
Macklin	•	•
Maple Creek	•	•
Moosomin		
Outlook	•	•
Oxbow		
Preeceville		
Rosetown	•	•
Shaunavon	•	•
Unity	•	•
Wadena	•	
Watrous	•	
Wilkie		•
Wynyard	•	•
Total 27	**15**	**13**

Administrations of the 27 towns were contacted by telephone in June 2011 and asked to participate in the research study. Eleven of the towns declined the invitation. Of the remaining 16 towns, 15 agreed to participate in Round #1 (14 town administrators and one Community Development Officer). Prior to these interviews, participants received a package via email containing: a letter of introduction to the study (see Appendix B1), an interview schedule, and a copy of the *Checklist*. The same 16 towns were again contacted by telephone in August 2011 and asked to participate in Round #2. This time, 13 towns agreed to participate (all were town administrators). Prior to the second round of interviews, participants received a package via email containing the interview schedule and the list of indicators developed in the document review (see Appendix B2). A total of 12 towns participated in both rounds of interviews (See Table 3.2). All interviews took place between June and October 2011 and a total of 28 interviews were conducted. Each interview was between 20 to 30 minutes in length. Participation of town administrators was favorable to the study, since they are responsible for a wide range of community development strategies, thus making them knowledgeable in the areas of the research.

All interviews were recorded using a digital recorder. According to Bryman and Teevan (2005), recording an interview is helpful, because it provides a chance for the researcher to concentrate on "following up interesting points made, prompting and probing where necessary, and drawing attention to any inconsistencies in the interviewee's answers" (Bryman & Teevan, 2005: 191) and not on noting the obtained information (Dunn, 2010). Interview data were later transcribed, using a word processing program (Microsoft *Word*). Creating written transcripts of interviews is a means to facilitate the analysis of vast data sets that otherwise would not be feasible (Dunn, 2010).

3.6 Data Analysis

Qualitative data collected in the interviews was manually coded using *NVivo 9.2*© software, a program designed to organize and analyze a large amount of qualitative data. Coding is a crucial component of many types of qualitative research (Lockyer, 2004; Jackson, 2001). According to Cope (2010) and Bryman & Teevan (2005), coding has a number of functions, including data structuring and organization; data reduction by distinguishing key themes; and

data exploration and analysis which subsequently allow for theory building. Coding is a systematic and transparent approach to analyzing data -- through a series of stages -- thus making sure that researcher does not jump to premature conclusions (Jackson, 2001). Since 28 interviews generate a large amount of data, coding was fundamental to analyzing it.

The first stage of coding was to develop an initial set of categories under which to sort information, derived from the two interview schedules and the SA theoretical framework. During the second stage of coding, additional codes were created under the primary categories that allowed further organization of data. While the first stage was merely broad categorization of the information, the second stage of coding was carried out to derive meaning from the information and to discern connections and relationships among the data. The second stage of coding provided groundwork for the interpretation of results (Lockyer, 2004).

3.7 Generalization of Results and Researcher 'Positionality'

Generalization in qualitative research may be difficult, due to the fact that the research may be concentrated on a small setting with a small number of individuals, or may include individuals who illustrate an extreme case or an 'ideal type' (Maxwell, 2009). However Becker (1991) asserts that generalization in qualitative research is allowed, because the goal of the research is to develop a *theory* that can be extended to other cases, rather than to extend the *results* to other cases. Yin (1994) specifies that this kind of generalization is "analytic" rather than statistical, which according to Guba & Lincoln (1989) constitutes "transferability" rather than "generalizability".

The number of communities that participated in the study comprises about 50% of all eligible communities; thus generalization of the results and recommendations to all other rural communities of the same category in Saskatchewan (by criteria listed in Section 3.5) is possible. Additionally, there was no distinction made between different types of participating communities (e.g. tourist, manufacturing, resource communities); the majority of the communities were located in Southern Saskatchewan, which created a sample of around 80% of agrarian communities (the remaining 20% had lumber industries, tourism or manufacturing as the main sources of income). Subsequently, issues raised and applicable criteria could be more related to agrarian types of communities than to any other types.

A certain level of researcher subjectivity was involved in selecting data to report on, and may reflect the researcher's implicit biases. If the researcher decided that certain data provided did not directly fit within any particular coding category, for example, it may have been disregarded. Some data were possibly miscoded, reflecting the beliefs and experiences of the researcher, rather than the intended messages of the participants. There is always a level of subjectivity involved in analysis, since qualitative data can be interpreted differently from researcher to researcher. Bryman and Teevan (2005) state that it is not possible for a researcher in the social sciences to stay completely objective during social science research, since personal values can intrude in any stage of the investigation. Although biases are hard to avoid, it is important to be aware of them (Katzer et al., 1998) and to avoid their influence on data interpretation, as much as possible.

CHAPTER 4

RESULTS AND DISCUSSION: SD AND SA TOOLS IN SMALL TOWNS

4.1. Current Approaches to SD Planning and Assessment in Small Towns

To determine how SA tools can be better tailored to the needs of small towns and advance the integration of SA and municipal planning more generally, it was first important to understand how the challenge of SD is perceived in small towns and whether and how it is already integrated into planning processes. Thus, participating small town administrators were asked to describe their local planning process, how they integrate sustainability considerations into that process, how they apply SA tools, and what challenges they are facing in planning for a sustainable future in their communities.

Planning for SD is quite a widespread concept among the towns included in the study, although there is still a lack of clear understanding and guidance on its practical application. Nine of fourteen communities reported that they incorporate sustainability considerations into their planning process:

> Whereas sustainability isn't the only aspect that has been looked at, it is certainly one of the considerations as we move forward in terms of the strategic planning and the idea there is a 3-5 year plan for the priority projects that we need to accomplish and certainly sustainability will be a part of that (Interview, 9a[15]).

Planning for sustainability is either initiated voluntarily by the communities themselves or is part of a legislated process: it is a provincial requirement that every community in Saskatchewan should develop an Official Community Plan (OCP) that would include a section addressing the SD of that community. "The purpose of the OCP is to provide a comprehensive policy framework to guide the physical, environmental, economic, social and cultural development of the municipality or any part of the municipality" (Government of Saskatchewan, 2012).[16] One of

[15] Each interviewee was randomly assigned a number from 1 to 16 (the same in both rounds of interviews), letter "a" and "b" stand for a Round #1 and Round #2 respectively.

[16] Compulsory aspects of the Official Community Plan are: land use planning, economic development; provision of public works; management of lands prone to natural hazards and environmentally sensitive lands; protection of water sources. Optional areas are: coordination of

the administrators referred to sustainability planning in the community and OCP initiation in the following way:

> I have to say that, although I am hoping that the OCP will gather focus on that a little bit more…we don't do anything official…I am going to stick with a 'no' [planning for SD] (Interview, 1a).

The requirement for a SD section in every OCP definitely has an influence and raises awareness; however, it does not guarantee that sustainability will become one of the main focuses of community planning.

Most of the communities that do plan for SD (nine of fourteen) do not use any standard system or set of tools. Three administrations generally just consider various aspects of sustainability during a planning process, ask various questions on how certain initiatives will perform in the long term, and ask what effects new developments have or will have on the community and environment. One of the administrators reported that preparing a community capital plan does involve a different type of planning system, and through it they incorporate sustainability into their planning process. One community reported completing feasibility studies that provided them with an idea as to which types of actions would be sustainable and what the limitations and risks are. Another community engaged a consultant company to conduct studies on future growth and development of their community; the results later on were partially incorporated into their zoning by-law. One of the municipalities in preparing town-marketing plans also engaged consulting companies, focusing particularly on opportunities for senior citizens. Some towns mentioned that evaluation of tangible capital assets is performed. This helps the community to better manage its infrastructure and assets and helps make them longer lasting and more sustainable. Unfortunately, it was also said that assessment studies prepared by consulting companies do not always get properly utilized by the municipalities: "we take their [consulting companies'] suggestions and a lot of times they get shelved, and that's where we're currently sitting" (Interview, 8a).

Application of assessment tools that would assist in planning for sustainable environment was not reported as a common practice (of the many available SA tools, only the *Checklist* was applied). One community reported application of tools prepared by Saskatchewan Urban

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development programs; use of dedicated lands; maps for future land use planning, etc. (Government of Saskatchewan, 2012).

Municipalities Association (SUMA): this includes checklists for preparing Municipal Access Agreements (between municipalities and telecommunications companies) and strengthening partnerships between Aboriginal and non-Aboriginal populations to provide proper services to citizens. Beyond this, accounting tools and taxation tools (n=2) are the only others that communities commonly use for planning and operations (besides application of the *Checklist*).

The *Saskatchewan Sustainability Checklist for Municipalities* is one of the tools applied by local municipalities.[17] It was developed by the provincial government to help local administrations in their planning process, specifically to evaluate whether the municipality is "healthy" so that it can "generate revenues required to meet the needs of the residents" (Government of Saskatchewan, 2009: 1). The *Checklist* is intended for use by municipal administrations that are interested in evaluating a municipal corporation's performance from a sustainability perspective, in order to identify areas for improvement. Implementation and views of the *Checklist* are discussed in more detail later in this chapter.

4.2. Unique Aspects and Challenges of Planning for Sustainable Futures in Small Towns

Lack of Human and Financial Resources

The main challenge that small communities face is a lack of human (n=2) and financial resources (n=5), which renders planning and implementation challenging processes (this problem may not be limited to small communities, but it definitely has a drastic effect on small towns). According to the research participants, a lack of expertise is another major reason small towns are not able to participate in sustainability planning and SD, "…strictly because we don't have the expertise to do it, and some of the tools that are out there aren't that friendly to our use, so they are not drafted for small communities" (Interview, 10a). A lack of financial resources is another major dilemma that small towns face. This is especially noticeable when it comes to hiring experienced staff to help with the SD planning process: "Number one is financial limitations, it's been the same throughout my years; it's always financial limitations that are the number one deterrent for proper planning" (Interview, 10a). The lack of professionals is

[17] An online support tool for the *Checklist* was released in October, 2011; however, it is too early to evaluate the efficacy of this tool, due to a lack of practical application.

connected to the lack of financial resources, according to the study participants, as it takes an investment in training or hiring professionals to procure the expertise needed.

Adherence to Reactive Planning Models

Reactive planning and short-term vision (n=2) are other issues that prevent small towns from being more engaged in planning for a sustainable future. Current planning processes in the majority of small towns follow a reactive approach, meaning that planning is centred on a short-term vision. Although this was not specifically reported by all of the towns, the fact that none of the municipalities had a community vision beyond the 5-year plan demonstrates the lack of long-term vision. One Community Development Officer described their town's process for economic development in the following way:

> ... a lot of places have an economic development committee or organization within that community...(but) sometimes they don't do a good job of sitting down and planning for the future. We kind of pay the bills every day and go by and hope people don't leave and hope people will move into our community, but we really don't always have a plan in place (Interview, 3a).

Four municipalities reportedly have a 5-year planning process, in which they make growth projections and, based on the projections, decisions are made on the changes required to zoning by-laws, water works, budget, etc., in order to accommodate that growth. Five administrations also report holding annual strategic planning meetings among municipality staff members and councils, during which key areas of development are established. One of the same five communities also organizes retreats for the administration and council members to develop a 2-year plan. Another two of the same five communities do not have any established planning process and would describe their approach as 'haphazard', meaning that planning occurs as a response to current needs or problems. One respondent described reactive planning models in small towns in the following way:

> …smaller communities tend to react rather than being proactive. They will fit in residential subdivision where they have five or six lots available for this type of residential …they don't take a look at what they need in the future until it's too late. When they sell those five, they say: 'Oh, we need some more,' and that's when they tend to…react rather than being proactive (Interview, 8a).

Just one municipality reported having a "minimum a 5-year projection"; however, planning is generally not done for longer than a 5 year term, which means planning processes are typically designed to address current issues or shortly anticipated ones and do not prevent SD issues that could occur in the long run.

Conservative Attitudes and Political Leadership

The conservative approach of taxpayers and local councils is also a roadblock that interferes with more proactive planning for SD. Interestingly, in most participating communities, administrators were willing to adopt SD models, but oftentimes seemed frustrated with the lack of support from local councils and citizens. Some administrators admitted that local councils have the final say in the direction that development in a community takes: administrators are there to provide advice (which may or may not be accepted). Apparently, some administrators (n=2) find it hard to persuade a council to adopt a SD model. Moreover, because of the 4-year cyclical nature of councils, it is also hard to plan with the long-term in mind, because priorities can change with every election:

> We can build the facilities and the infrastructure, but being able to understand the long-term commitment you are making when you build something to maintaining and upgrading and improving and then eventually replacing…the understanding of that is one of the biggest challenges we have because councils change and when they change sometimes priorities change (Interview, 10a).

Also, administrators (n=2) admitted that it is hard to get past an entrenched mindset among the general public and administrations: "this is how we do it, this is how we have always done it, this is the way we are going to do it" (Interview, 13a). One of the administrators admitted that it is especially hard to persuade the older part of the population to adopt new practices, since there is a limited understanding of sustainability and of why there is a need to do things differently. Another major hurdle is the public's perception that sustainable practices are expensive and thus it is easier "to just go ahead and get things done and figure out how you are going to look out after them later… [the public doesn't] consider long-term cost up front…the sustainability aspects" (Interview, 9a). Two other findings, though mentioned only once each during the interviews, are reported below, since many other towns may experience similar issues.

Out-Migration and Services Sought in Larger Municipalities

Since out-migration from rural to urban centres in Saskatchewan is reportedly a common trend (which may be changing with the extensive development of resource industries in rural areas), retaining and attracting new people is one of the main concerns among town administrators. Strategies to do so are often 'whatever it takes to make it happen':

> Just for years we see that outmigration of people leaving smaller communities into rural areas or for larger centers, and I think sometimes with communities…we kind of jumped on any opportunity that may bring in new residents, that may bring in any employment, that may bring in

> any economic development, and we don't always consider some of the other social or economic benefits or factors that come into that (Interview, 3a).

So it is important to satisfy people's desires, which can be quite diverse and not so easily fulfilled with the limited tax revenue of a small town. This issue may have some unique implications for SD agendas. Also, current centralization of services to bigger cities or towns encourages residents to travel to bigger urban centres and spend their money there. Although people remain living in the smaller community, small towns end up losing diversity in their services, due to the lack of clients. One of the administrators said: "I feel [out-migration] is [a] real detriment to the small towns and they are paying the price for it [decrease in service provision]" (Interview, 16a).

Lack of Influence and Control

Regarding implementation of a vision for a sustainable future, small towns feel like they lack control and do not have any influence on many areas of development that are happening in and around their communities. One of the administrators described the perceived lack of possibilities to influence development in the following way:

> The unique challenges for planning in a small town are uncertainty with respect to numerous factors over which we have no control. Such factors include assessment base, level of services provided by other services providers (e.g. health care, will our hospital stay open?, etc.), local industry and commerce (will our elevators stay open or will another industry or commercial enterprise start up to provide jobs for local residents?) (Interview, 4a).

It is hard to have plans for the future when there is limited control and thus little prediction of how development of the surrounding industries will unfold in the future. One of the interviewed communities had a very stable environment for a number of years, before the potash industry began developing a mine nearby, which resulted in many changes. The changes were not bad in themselves, but rather were not anticipated by the community and thus left the community unprepared.

4.3 Critical Analysis of the Saskatchewan *Sustainability Checklist for Municipalities,* 2009

4.3.1 Basic Features of the *Checklist*

The Saskatchewan *Sustainability Checklist for Municipalities* (2009) (Appendix A) consists of five analytic sections, each representing one 'health indicator' for a municipality.

Table 4.1 lists the health indicators and summarizes the corresponding questions municipalities should ask themselves, relative to each. For each indicator, a number of Yes/No questions are posed. If a municipality answers positively to most of the questions, then the municipality is "probably healthy and viable" (the *Checklist*, 2009: 1).

Table 4.1 Indicators of municipal 'health' according to the Saskatchewan *Sustainability Checklist for Municipalities* (2009)

	Health Indicator	Summary of Evaluative Questions
1	Can the municipality's population and economy be sustained and even grow?	Questions are designed to rate population and business growth; predominant age group of the current occupants; and job opportunities in the community.
2	Can the community council represent the interests of the community?	This indicator is evaluated on dual grounds: whether or not residents are interested in participating in community life and supporting community's development through being part of the council, and whether the council is selected through democratic means.
3	Can the municipality meet its responsibilities for administration and services, and satisfy legislation?	Evaluative questions are divided into two areas: 'Administrative and Governance Capacity', and 'Financial Management'. With respect to the former, questions are related to: updating and maintaining qualifications of administrative staff; whether there is an emergency measures committee, building codes and zoning by-laws, and an Official Community Plan; availability of policy manuals for addressing municipal issues; and quality of working conditions. Regarding the latter, questions focus on whether there is an up-to-date budget (and council's awareness of it), as well as a 5-year budget projection plan.
4	Is the municipality able to provide needed services to residents at a cost they can afford?	Service questions cover: maintenance of public facilities, infrastructure services; availability of funds for major capital works; acceptable tax rates; and sufficiency of utility payments for the infrastructure upkeep.
5	Can the municipality provide services from the available financial resources?	Evaluative questions focus on municipal financial management and tax revenues, debt minimization, and availability of financial reserves.

Based on Table 4.1, the *Checklist* is primarily designed to review the ability of a municipality to provide all necessary services within the available budget, ensuring that it functions in a democratic and efficient manner; that all administrative responsibilities are being carried out; that municipal facilities are being maintained; and that the community's population and businesses are maintained at a level that supports the community's functionality. The new 2011 *Municipal Government Sustainability Self-Assessment Tool*[18] (Saskatchewan Ministry of

[18] As was mentioned earlier, this research concentrates only on the 2009 the *Checklist* as 2011 tool was released after the data collection was conducted.

Municipal Affairs, 2011) is an updated and expanded version of the 2009 *Checklist*; it includes such areas as Administration, Finance and Financial Management; Service Delivery; Public Safety; Infrastructure; Demographic and Economic Trends; Partnerships and Governance. Each of the areas is measured in three possible ways: by a list of possible scenarios; by questions that are answered using a 5-point Likert scale with possible responses ranging from 'Strongly Disagree' to 'Strongly Agree'; and by a quantitative section that has numerical measures for each question. The 2011 *Checklist* is much more comprehensive and includes some additional areas that are missing in the first *Checklist*; moreover, it incorporates a rating system that graphically presents results of the assessment to users.

4.3.2 Town Administrators' Evaluation of the Saskatchewan *Sustainability Checklist for Municipalities* (2009)

Although the *Checklist* was specifically designed to assist municipalities in planning processes, at the time of interviews (June-July 2011), just two communities out of 15 interviewed in round 1 had applied it. Two years had passed between the time of the *Checklist's* release and the time this research was conducted; however, more than a third of the communities were unaware of the tool. Many administrators admitted that introduction of the tool was not made very 'public':

> Yeah, you know until you showed it to me…and this came out in 2009 and made public in 2010, which was only a year ago in my perspective…I wasn't aware of it. I may have seen the term and then moved on to something else, it wasn't thrown out at us in a very public format (Interview, 13a).

Four (of 15) communities reported being aware of the *Checklist* but had reasons for not implementing it: in half of the cases, it was the town council that did not support using the tool. And in the other cases, it was either due to a lack of time or initiative. Two municipalities showed interest in the tool once it was introduced to them via the interview process and intend to use in their administrations in the future.

Participating town administrators were asked to give their reactions to the *Checklist*. Nine respondents (of 15) believed the *Checklist* is applicable to small towns. Seven of the nine said that is a good and useful tool to analyze the overall progress of a community. One of the noted strengths of the tool is that it is straightforward and easy to understand (n=2): "It is a very useful tool, especially since we do not have anything else in place currently. Its main strength is that it is very easy to understand and short enough to be manageable" (Interview, 4a). Four respondents

said that it is a good tool to provide an overall picture of the current standing of the community (to the administration, council members and to the community itself), to identify gaps and to integrate solutions into the planning process. One of administrators said that some of the points in the *Checklist* are 'common sense aspects' and that their municipality is already fulfilling them in the course of their normal procedures. However, there were other aspects the same administration reportedly never even thinks about. The participant commented that it is good to have tools like the *Checklist,* as a reminder not to miss some major aspects of SD in planning. Another respondent said that tools such as the *Checklist* are a good way to demonstrate to certain people that sustainability is not something unreachable and unidentified, but that there are actually practical steps that can be taken to make it happen. It was also mentioned by three administrators that although the *Checklist* is a "good tool", it is just a start which should lead to something more and that it should not be viewed as the only tool to be used in SD planning and assessment.

Interestingly, some of the points that were identified as strengths of the tool (for example simplicity) were also perceived by some as a weakness. The *Checklist* was said to be "too simple" to be able to help with some of the more complicated projects, but can work well at the beginning stages, to get an overview and to ease into a forward-thinking approach. Two administrators said that the *Checklist* is too generic, but one also sagely added that it is hard to develop a tool that is applicable to all types of communities at various geographical locations, without being generic at the same time. One municipality said that one of the major points is missing: taking into account the surrounding communities and regional cooperation. Small communities rely more and more on regional cooperation as a way to pay for their services:

> ... it's [the *Checklist*] probably too narrow of a scope for a small community; because we can't provide every service to our communities, but it doesn't mean we are not sustainable. If you apply the tool to a larger area you would probably have a better picture of the sustainability of the community because in our case it takes in pretty broad scope around the community, not just us (Interview, 10a).

One of the respondents also complained that some of the indicators like volunteerism and sense of community are very subjective. The environment was mentioned by another participant as an important aspect missing from the *Checklist,* especially when it comes to projecting how current infrastructure can hold up with future growth:

> ...this was a document produced in December 2009, environment felt fairly relevant at that point of time. It is something like waste management, water quality, those types of issues are things that gradually creep up on you and it might be one of those things that could be included to make a

> council or whoever is doing it look at it a little bit more critically: "Are we on the right track or do we still use aged, old methods how we treat our water or how we collect our waste and where we put it, is it environmentally sustainable?" (Interview, 13a).

Participants also pointed out that the *Checklist* does not address the future potential of a community or how events occurring in the short-term may affect the community (for example, the development of a potash mine nearby that will effect employment opportunities in the area and lead to other consequences). The *Checklist* does not contain any information to help implement a future course of actions, after the assessment has been completed.

There were numerous recommendations from administrators about how the *Checklist* could be improved. One town administrator said the *Checklist* could be better promoted, since many administrators are unaware of the tool, and particularly promoted to town councils, since they are the ones who make decisions. Another mentioned that environmental aspects should also be included in the *Checklist* -- i.e. those activities under the direct control of municipalities, for example landfills. According to two administrators, certain criteria were either too subjective (for example, 'volunteerism' and 'sense of community') or were lacking data to compare to (e.g. "Does your community tax rate higher/lower than other comparables?"), therefore, it was suggested to review those specific criteria. One administrator said that it would be nice to have an example of a good strategic plan that could be used as an example to follow. Finally, two administrators said the *Checklist* should be expanded to include components and examples pertaining to regional cooperation.

4.3.3 Comparison of the *Checklist* with Gibson's SA Framework

Assessment frameworks provide a structure to analyze a given problem during decision-making and thus, to make a better decision (Hurley et al., 2008). A framework called *Criteria for Sustainability Assessment* developed by Robert Gibson (Waterloo University) in the mid 2000s goes beyond a 3- or 4-pillar conceptualization of SD and instead "…concentrates attention on what must be achieved, and what key actions are involved, to move consistently towards greater sustainability" (Gibson, 2006: 173). It is currently considered the most complete conceptual basis for SA practice in the world (see Section 2.2.2). The Gibson *et al.* (2005) framework consists of eight SD imperatives that address the traditional environmental, social, and economic aspects of SD; however, in the framework, the pillars are deconstructed and the interconnections among them is stressed. The eight criteria are also linked with situations that would be considered

sustainable. Table 4.2 lists and briefly describes each of Gibson's *et al.* (2005) eight criteria. A fuller description of all eight criteria is provided in Appendix C1.

Table 4.2 Summary of *Criteria for Sustainability Assessment* by Gibson *et al.* (2005)

Criteria	Description
Socio-Ecological System Integrity	Build human-ecological relations that establish and maintain the long-term integrity of socio-biophysical systems and protect the irreplaceable life support functions upon which human as well as ecological well-being depends.
Livelihood Sufficiency and Opportunity	Ensure that everyone and every community has enough for a decent life and opportunities to seek improvements in ways that do not compromise future generations' possibilities for sufficiency and opportunity.
Intragenerational Equity	Ensure that sufficiency and effective choices for all are pursued in ways that reduce dangerous gaps in sufficiency and opportunity (and health, security, social recognition, political influence, etc.) between the rich and the poor.
Intergenerational equity	Favour present options and actions that are most likely to preserve or enhance the opportunities and capabilities of future generations to live sustainably.
Resource Maintenance and Efficiency	Provide a larger base for ensuring sustainable livelihoods for all, while reducing threats to the long-term integrity of socio-ecological systems, by reducing extractive damage, avoiding waste and cutting overall material and energy use per unit of benefit.
Socio-ecological civility and democratic governance	Build the capacity, motivation and habitual inclination of individuals, communities and other collective decision making bodies to apply sustainability principles through more open and better informed deliberations, greater attention to fostering reciprocal awareness and collective responsibility, and more integrated use of administrative, market, customary, collective and personal decision making practices.
Precaution and Adaptation	Respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, plan to learn, design for surprise and manage for adaptation.
Immediate and Long-Term Integration	Apply all principles of sustainability at once, seeking mutually supportive benefits and multiple gains.

Source: Adapted from Gibson et al. (2005)

Comparison of the Checklist Based on Gibson's et al. (2005) Framework

When compared with the Gibson *et al.* (2005) framework, the *Checklist* only addresses one of the eight criteria well: the "socio-ecological civility and democratic governance" criterion (see Table 4.3). Three out of the five health indicators in the *Checklist* specifically target this aspect of community development, via questions such as: "Are the bylaws adopted and supported by the community?", "Does the municipality regularly meet deadlines for financial, assessment, taxation and administrative cycles?", etc. Two of Gibson et al.'s other criteria—

"livelihood sufficiency and opportunity" and "precaution and adaptation"—are just partially addressed by the *Checklist*, meaning that while some questions scattered throughout the *Checklist* can be related back to those the criteria, they are not explicitly addressed within it. For example, questions such as: "Is there increase in building permits being issued and businesses opening?"; "Does the council have an emergency measures committee, designated coordinator, and emergency plan as required?", etc., would provide some insight into " livelihood sufficiency" and "precaution and adaption," but each of those criteria also contain other sophisticated concepts not captured by the *Checklist*. The Checklist does not address the remaining five criteria in the Gibson framework in any way. Table 4.3 provides further detail on how Gibson's criteria are or are not reflected in the content of the *Checklist*.

Table 4.3 Analysis of the *Checklist* comparing to Gibson's framework.

	Gibson's criteria	Addressed	Comments
1	Socio-Ecological System Integrity	**No**	Not addressed by the *Checklist*.
2	Livelihood Sufficiency and Opportunity	**Partially**	The following *Checklist* indicators partially address this criterion: - *Health Indicator 1* (Economy and Population); - *Health Indicator 2* (Sense of Community); - *Health Indicator 4* (Paying for services).
3	Intragenerational Equity	**No**	Not addressed by the *Checklist*.
4	Intergenerational Equity	**No**	Not addressed by the *Checklist*.
5	Resource Maintenance and Efficiency	**No**	Not addressed by the *Checklist*.
6	Socio-Ecological Civility and Democratic Governance	**Yes**	This criterion is the one most fully addressed in the *Checklist*. The following *Checklist* indicators addressing this criterion: - *Health Indicator 2* (Local Democracy); - *Health Indicator 3* (Administrative and Governance Capacity, Financial Management) - *Health Indicator 5* (Dept and Reserves, Taxation and Revenues)
7	Precaution and Adaptation	**Partially**	The following *Checklist* indicators partially address this criterion: - *Health Indicator 3* (Administrative and Governance Capacity). Financial issues of being able to afford necessary repairs are addressed through - *Health Indicator 4* (Paying for Services).
8	Immediate and Long-Term Integration	**No**	Not addressed by the *Checklist*.

4.3.4 Comparison of Saskatchewan's *Checklist* with Similar SA Tools

For the purpose of this study, a broad range of SA tools (including SA checklists, SD monitoring programs, community sustainability plans, regional SD programs, etc.) were initially reviewed to find examples of practical SA tools, against which the relative strengths and weaknesses of the *Checklist* could be assessed, in addition to Gibson's *et al.* (2005) theoretical framework. Thirteen tools were ultimately selected (eight Canadian and five international), based on the following criteria: (1) the tool incorporated sustainable development assessment; (2) the tool was applied to assess sustainability of a community, region or a country; and (3) the tool made use of indicators that could be used to 'operationalize' or measure Gibson's core eight criteria for SA, as these were largely lacking in the *Checklist*. Table 4.4 lists the tools and provides a brief description of each.

Table 4.4 Canadian and International SA Tools Selected for Comparison with the *Checklist*.

	SA Tool's Name Developer(s)	Description of the Tool
1	**Alberta Municipal Sustainability Self-Assessment Tools** Government of Alberta, AB, Canada, 2010	Y/N self-assessment checklist to help administrations determine sustainability of their municipalities.
2	**A Sustainability Planning Toolkit for Municipalities in Ontario** Association of Municipalities of Ontario, ON, Canada, 2008	The guide contains a self-assessment tool (list of questions) to determine the position of municipality in their SD planning process, plus 13 tools to assist communities with the SD planning.
3	**Banff Community Plan** Town of Banff Planning and Development, Banff, AB, Canada, 2009	Indicators are contained within a report for a community vision and goals.
4	**Canmore Community Monitoring Program: 2010 Final Report** Biosphere Institute of the Bow Valley, AB, Canada, 2011	It is a monitoring program for the city of Canmore, BC. Results are reported every 2 years. Report is based on the results of the indicators.
5	**Municipal Sustainability Self-Assessment Toolkit** Municipalities Newfoundland and Labrador, NL, Canada, 2009	Yes/No/To Some Degree checklist with values attached to some of the questions for comparison.
6	**Southeast False Creek Monitoring Strategy** City of Vancouver, BC, Canada, 2007	The structured framework includes the vision, goals, objectives, indicators and targets. Indicators are used to determine sustainability of an Official Development Plan.
7	**The Regional Growth Strategy Monitoring Program for the Capital Regional District** BC, Canada, 2005	It is a regional monitoring program that contains 35 indicators, measured on annual basis and 50 indicators measured on a 5-year basis.
8	**Whistler 2020** Whistler Centre for Sustainability, Whistler, BC, Canada, 2006	The 2020 Whistler monitoring program includes indicators to help monitor the changes within the community.

Table 4.4 Canadian and International SA Tools Selected for Comparison with the *Checklist. (Continued)*

	SA Tool's Name Developer(s)	Description of the Tool
9	**Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments** Department of Local Affairs, USA, n.d.	It is a list of Y/N questions. Also, every question is rated on the scale from 0 to 2 (0 – not important; 1 – somewhat important; 2 – very important) to determine the importance of the factor within the community.
10	**CSD indicators of sustainable development** The Department of Economic and Social Affairs, United Nations, 2007	Indicators are designed to assist countries in monitoring SD and to inform policy-making process.
11	**European Commission Sustainable Development Indicators** Eurostat and the Task Force on Sustainable Development Indicators, 2009	Indicators are designed to assist EU in monitoring SD and to inform policy-making process.
12	**Sustainability Assessment Method** International Union for Conservation of Nature and Natural Resources (IUCN), Planning and Development Dept., Northern Areas, Pakistan Programme, 2003	Indicators are a part of the method to develop a Northern Area Strategy for Sustainable Development in the Northern areas of Pakistan
13	**Zambia NBSAP Monitoring Framework** IUCN, Regional Office for Southern Africa, Ecosystems Programme, 2001	Monitoring program is developed to track implementation of National Biodiversity Action Plans (NBSAP) in Zambia.

Table 4.5 (on p.62) summarizes the differences between the *Checklist* and the similar tools mentioned in Table 4.4 based on:

(i) *provision/use of indicators (environmental, social, economic);*

(ii) *minimization of negative effects or promotion of positive ones;*

(iii) *adjusted to the local conditions;*

(iv) *practicability; and*

(v) *presentation of results and directions to change.*

The first point of comparison reflects the three pillars of sustainability: environmental, social and economic. It is important to see whether other SA tools address all three areas or concentrate on just some, but are nevertheless called 'SA' tools. On the second point of comparison, Gibson *et al.* (2005) strongly believe that it is not enough just to mitigate negative effects when it comes to sustainability, it is also important to promote positive change and introduce new approaches that are may be not part of a current process, but nevertheless promote positive changes and strengthen SD: "Assessment requirements must encourage positive steps – towards greater community and ecological sustainability, towards a future that is more viable, pleasant and secure" (Gibson, 2006: 172). The third point of comparison is also derived from Gibson`s understanding of sustainability. He states that the pursuit of sustainability is a global as well as a

local process. While it is possible to identify a set of requirements that are applicable uniformly on a global scale, the majority of considerations should be location-specific that can reflect local environmental, social, economic, governmental and cultural conditions (Gibson, 2006).

According to a study completed by Devuyst (2001) on application of impact assessment tools within municipalities in Belgium, there are certain conditions in small municipalities that can prevent the application of tools. Therefore, “practicability” (the fourth point of comparison) is important: tools should be suitable to the situation, thereby increasing the number of users (Devuyst, 2001). Key elements of tool “practicability”, according to (Devuyst, 2001), include: (i) flexibility, simplicity, and efficiency because each municipality varies in size, type of legislation and experience with application of assessment tools, and (ii) the provision of sufficient information without over-complication leading to wasted time and money.

The fifth and final point of comparison reflects the need for municipalities to complete and implement the tool independently. Since the *Checklist* is a self-assessment tool, it is important that the tool serves as a comprehensive guide, also addressing implementation (follow-up) aspects of any generated results. As a general rule, assessment tools should not only provide criteria for assessment, but also lead to results that are communicable to the assessors and decision-makers and suggest a necessary course of actions (at least the general direction) as follow-up (Noble, 2010).

Table 4.5 Comparison of the Saskatchewan *Checklist* with other SA tools

Criteria		Saskatchewan *Checklist for Sustainable Municipalities* 2009	Common Features of Other SA Tools
Use of indicators		- Does not use indicators; - Yes/No type questions.	- Most self-assessment tools contain Yes/No questions; - Remaining tools use indicators;
Areas of provided indicators	Environmental	- Not addressed by the *Checklist*.	- 2 out of 3 self-assessment tools did not have this section; - All the remaining sources have Environmental section.
	Social	- Mostly questions on governmental/ administrative aspects; - Briefly mentions Population growth; Sense of Community and Volunteering.	- Mainly governmental and administrative aspects are the main focus of Canadian tools; - European tools contain a fair amount of social aspects; - Half of the indicators in IUCN tools are on social aspects.
	Economic	- Only economic aspects of municipal operations.	- Most of the tools have some economic aspects to it, (jobs provision, sustaining of businesses, consumption and production); - The IUCN tools do not have economic aspects to them.
Minimization of negative or promotion of positive effects		- Mostly optimization and regulation of current conditions.	- Mostly optimization and regulation of current conditions.
Adjusted to the local conditions		- Adjusted to Canadian requirements and regulations for municipalities; - Does not differentiate between different types of communities.	- Most of the Canadian tools reflect Canadian requirements and regulations; not locality-specific; - UN and EU indicators are not locality-specific, as they are meant to be applied at different European countries; - The IUCN tools are specifically designed to address local issues.
Applicability		- Questions are easy enough to be applied by non-experts.	- Most of the tools are simple enough to be completed by a municipal clerk (with required data available).
Presentation of results		- There is a table at the end that presents some basic results; - Results are drawn on each section, based on the number of Yes/No answers.	- Just 3 of the tools have some sort of self-assessment system (2 SA tool and 1 monitoring program); - Remaining ones are designed to be monitored by a designated body and to report on the results in a report; - EU and UN tools are used to bring awareness to certain issues specifically for the policy making process on a indicator-by-indicator basis.
Directions to change		- Presents some basic directions on possible courses of action.	- Majority of tools (n=8; mainly monitoring programs) did not suggest any further course of action (follow-up); - Three self-assessment tools provide links to other tools to develop further course of actions.

The *Checklist* in many cases is similar to other reviewed self-assessment tools; however, it has number of differences when compared with the reviewed monitoring frameworks and sets of indicators for assisting policy making. Most of the self-assessment tools do not use indicators, whereas the *Checklist* just consists of a list of Y/N questions. However, other tools are completely indicator-based, ranging from using simple scales to more precise values. In terms of the included criteria, the *Checklist* once again was similar to the other self-assessment tools in that it mostly contained areas related to the administrative aspects of a community; however, monitoring programs tended to be much more successful at addressing all the ESE criteria. With regard to ensuring that tools promote positive changes and not just mitigate negative impacts, all the tools were similar in the way that they concentrated on optimizing the current conditions within the existing structure (which may be unable to provide a strong base for sustainable lifestyle) without promoting fundamental changes that would enable sustainable living.

Sensitivity to local context is addressed in different ways by different tools; however, most of the self-assessment tools including the *Checklist* are quite generic, because they are not locality-specific. In contrast, monitoring programs are developed for a specific case scenario or a community and thus are locality-specific and reflect attributes specific to the place. As with other self-assessment tools, the *Checklist* is quite simple in design and therefore easy to apply by any municipality. However, some comprehensiveness in the assessment has been compromised to reach achieve such simplicity. In a couple of respects, the *Checklist* was more advanced than some of the other tools in that it allowed to analyze results by the users themselves and provided directions for future course of actions in order to address existing weaknesses. This was missing from many other similar SA tools (monitoring programs notwithstanding, as they are to be completed by a designated body as opposed to self-assessment tools that are to be completed by administrations themselves).

Overall the *Checklist* addresses almost half of the criteria listed in the Table 4.5, such as presentation of results, directions for future change, and applicability. But, the following criteria were not addressed by the *Checklist*: it did not contain a section on environment, and the economic section was quite limited; it is fairly generic, as it tries to target communities of all sizes in the whole province. Thus it does not reflect some of the specifics that arise from differences in size and location of a municipality; and it was not designed to promote new

strategies and initiatives that may improve the sustainability of a community, but are not directly regulated by the municipalities.

4.3.5 Addressing 'Missing' SA Criteria and Indicators in the SK *Checklist*

Gibson's SA criteria were linked with indicators commonly used in the 14 SA alternative tools to 'fill the conceptual gaps' in the Checklist with practical, measurable metrics (see Appendix B2 for a more detailed description of each indicator). Indicators were regarded as necessary to help qualify, quantify, and value Gibson's core eight SA criteria, and were borrowed from the 14 other SA tools reviewed. Town administrators were then asked to comment on whether the SA criteria and their complementary indicators "made sense" and could actually be followed-up on via monitoring. Some slight adaptations to Gibson's criteria were made to better reflect the research context, and not all of the eight core criteria were used. For example, it could be argued that "intergenerational equity" is already sufficiently addressed via other core criteria, including "socio-ecological system integrity", "livelihood sufficiency and opportunity", "resource maintenance and efficiency", and "precaution and adaptation". For this reason, considering that most small town administrations suffer from limited financial and human resources, "intergenerational equity" was not considered a "gap" in the *Checklist* and not explored in the interviews. Another criterion, "socio-ecological civility and democratic governance", was also ignored at this stage of the research because it is sufficiently addressed by the 2009 *Checklist*, as noted earlier in Section 4.3.3. One additional criterion for SA, "regional cooperation", was added alongside Gibson's, based on feedback from one study participant who said it was essential to SD in the context of small towns:

> I think the process should be expanded to include a regional cooperation component. By that I am talking funding agreements that are with surrounding rural municipalities: What type do you have and what type don't you have? …as a community we can't afford to provide them (rural municipalities) with everything else (recreational facilities) with no support from them, because their tax payers use all of our facilities. So, if there is one way to expand this, even the tool the province has, that would be the road I would look at: What type of regional cooperation you have? What type of funding agreements do you have? And, do you share any personnel in any capacity? (Interview, 10a).

Table 4.6 provides a summary of indicators that were used to populate the gaps in the *Checklist* and help qualify, quantify, and value each of the seven SA criteria as outlined above.

Table 4.6 Indicators that translate Gibson's 'missing' SA criteria into practicable terms.

Core SA Criterion	Potential Indicators for Tracking or Measurement	
I. SOCIO-ECOLOGICAL SYSTEM INTEGRITY	1. Atmosphere	- Climate Change - Ozone Layer Depletion - Air Quality
	2. Land	- Agriculture - Desertification - Salination - Erosion - Urbanization
	3. Fresh Water	4. Biodiversity
I.II PROVISION OF ENVIRONMENTAL SERVICES IN YOUR COMMUNITY	1. Fresh Water	2. Biodiversity
	3. Atmosphere	4. Land
	5. Planning for Environment	
II. LIVELIHOOD SUFFICIENCY AND OPPORTUNITY	1. Economic Development	2. Commercial Development
	3. Education	4. Health Care
	5. Housing	6. Infrastructure
	7. Crime	8. Recreational Facilities
	9. Cultural	10. Town Revenue
	11. Satisfaction Surveys	
III. INTRAGENERATIONAL EQUITY	1.Social Class Equality	2. Gender Equity
	3. Racial Equity	4. Employment
	5. Housing	
IV. RESOURCE MAINTENANCE AND EFFICIENCY	1. Consumption and Production Patterns	- Material Consumption - Energy Use - Waste Generation and Management - Water - Wastewater
	2. Tourism	3. Livestock
	4. Food	5. Transportation
	6. Stormwater	7. Fish
	8. Forest	
V. PRECAUTION AND ADAPTATION	1. Economic Adaptation	2. Planning for Natural Disasters
	3. Service Delivery in Case of a Disaster	4. Planning for Medical and Technological Emergencies
	5. Planning for Climate Change	
VI. IMMEDIATE AND LONG-TERM INTEGRATION	1. Built Environment	2. Delivery of Services
	3. Urban Planning	4. Energy Efficiency
	5. Reduction of Water Consumption	6. Waste Reduction
	7. Community Outreach and Education	8. Reduction of Atmospheric Pollution
	9. Food Security	
VII. REGIONAL COOPERATION	1. Sharing of Services, Infrastructure and Equipment	2. Regional Meetings and Cooperation

Note: Indicators were drawn from the 13 SA tools introduced in Tables 4.4 and 4.5.

The first criterion contains indicators to assess environmental quality in a community and its surrounding area, as well as how well a municipality manages and integrates environmental considerations into their planning process. “Livelihood sufficiency and opportunity” addresses the economic well-being of a community and how robust such services as education, medical, recreational facilities, infrastructure, etc., are in a community. “Intragenerational equity” indicators assess how well a community accommodates the needs of people of different races, genders and classes. “Resource maintenance and efficiency” indicators assess current resource use and waste management in a community. “Precaution and adaptation” indicators can evaluate how well prepared a community is to respond to natural catastrophes, economic crises, and/or medical/technological pollution. “Immediate and long-term integration” indicators can evaluate the degree of integration of sustainability strategies into management of the built environment (e.g. water and waste reduction, etc.). The last criterion, “regional cooperation,” is expressed in terms of indicators that can measure the extent to which a community cooperates with the surrounding communities -- i.e. to what extent it shares services, infrastructure, and equipment. Appendix D1 indicates the source materials for the indicators.

4.4 Synthesis

4.4.1 Current Approaches and Unique Aspects to SD Planning and Assessment in Small Towns

Small towns often lack long-term visions for their communities and do not operate on the principle of forward-thinking: this directly contravenes a core SA principle. Like many municipalities, large or small, town administrations are more absorbed in day-to-day problem-solving rather than long-term proactive planning. One of the interviewees described it: “We kind of pay the bills every day and go by and hope people don't leave and hope people will move into our community, but we really don't always have a plan in place” (Interview, 3a). The fact that some of the towns did not even have an established planning process further complicates the establishment of proactive planning. In some cases, planning was described in the following way: “The planning process that is used now is basically responding to needs, such as when an asset becomes problematic, it is replaced. Planning is mainly responding to asset failures or potential failures” (Interview, 4a). Haphazard, ad-hoc planning is still common which prevents

the town from really attempting SA or achieving SD, that currently requires at least some degree of forward thinking. According to Wheeler (2004: 34), a "long-term approach to decision-making, a holistic outlook integrating various disciplines, interests, and analytic approaches, a questioning of traditional models of growth and acceptance that limits to these exist" are the factors that set sustainability planning apart from business-as-usual. If no long-term vision is in place, it is possible that there will be always something occurring on day-to-day basis that will require all the financial and human resources. Therefore, one of the important steps in transitioning to SD is to optimize the planning process for it to accommodate a long-term vision approach.

It is a perception among small town administrators that the general public is not supportive of SD, since there is no clear understanding of the concept and why it is required. The peaceful social and cultural structure in rural areas is often called 'rural idyll,' which brings such positive features as caring, safety and peace; however, it is also often connected with conservatism and inability to accept new approaches that differ from the currently present standards (Little, 2001). One of the interviewees supported this idea by stating that it is often a challenge to make citizens see a reason in to innovate:

> Some of the older folks don't understand the concept of sustainability and they don't understand that it may mean changing some of the ways that things have been done traditionally. That's a bit of a challenge for us; we have a lot of tax payers who would be older and trying to get them to buy into new ideas is a bit of a struggle to be sure (Interview, 9a).

This research revealed that most of the administrators were willing and interested in adopting certain sustainable practices and become more proactive; however, there is little they can do without the necessary support from the communities and councils. It was also found that a lack of support in large part is also due to the lack of understanding among the general public as to why things have to be done differently from the way they were done for decades, especially when it concerns some of the "older folks" (Interview, 9a). More than that, rural Saskatchewan is still quite a pristine environment with a lot of undisturbed land (compared to some other countries), although scientists have already been raising flags about the impacts of climate change in the province for some time (Saskatchewan Eco-Network, n.d.). And such problems as poverty and gender inequality are still significant in the province, without showing signs of decreasing (Douglas, 2010); those problems do not have uniform character and thus are less evident in some parts. Therefore, perceptively, there is no real reason for people even to start

asking these questions. Support and initiative from the general public is an important factor in the advancement of SD: it is therefore important to notify the public of the importance of change or even just of adapting to upcoming changes (Macnaghten & Jacobs, 1997), since adaptation strategies can have a significant effect on reducing societal and ecological risks to possible climate change, in the future (Preston, et al., 2013; Pielke, et al., 2007).

There are no formally adopted procedures or guidelines for SD planning in small towns; moreover, there is often a vague understanding of the sustainability concept itself. Existing procedures for SD planning described during the interviews were mostly characterized as simply asking various questions during planning sessions and seeing the long-term effects of an initiative. Thus, local administrations rarely use any guidelines, frameworks or tools in planning for sustainability; they, in large part, rely on their own understanding of SD. The interviews also revealed that local administrators rarely have any professional training in SD planning; therefore, even if they do possess some knowledge of sustainability, it does not come from any 'official' source. In fact, lack of expertise or knowledge was said to be one of the main reasons for a lack of involvement in SD. Therefore, even when administrators strive for SD, personal knowledge may be insufficient to cover all important aspects of the concept in-depth. Devuyst and Hens (2000), in their study on introducing SD into Canadian and Belgian municipalities, concluded that at the time of the study, 33.8% of respondents in Belgian municipalities did not have a clear idea about sustainability implementation.[19] Thus training and information campaigns are important components of SD. Also, the study concluded that at that time, no municipalities had trained personnel to initiate SD in the communities, and only 40 percent had some sort of outside support (mostly insufficient), thus indicating a strong need for outside help in planning for SD. Established guidelines are thus an important step in implementing SD in Saskatchewan's rural communities, as municipalities could use it as a stepping stone for further advancement of SD (even the *Checklist*, as simple as it was, was said to be useful in planning).

Small town administrations have very little control over many aspects in their communities, since those administrators face a highly fragmented governmental structure, with multiple institutions controlling various areas. Throughout the course of interviews, it became clear that administrators did not see the point in monitoring many aspects of community life, since they have very little influence on many factors. Craig Brett (2004), Canada Research Chair

[19] Unfortunately, the authors did not provide the comparative data for Canadian municipalities.

in Canadian Public Policy, says that local governments do not have substantial political power, since the structure of the federation has not changed since 1867, when Canada consisted of mostly villages. According to Garcea and Gilchrist (2009: 350):

> Saskatchewan, then, has one of the most highly fragmented municipal systems in Canada upon which is superimposed an equally highly fragmented system of regional authorities, all of which interface with an array of aboriginal local, regional, and provincial governments and authorities. The fragmented nature of the system has significant consequences both for local governance and for multilevel governance.

In addition, the province has a number of single-purpose, special authorities for various aspects in a community, like education, health, parks, watersheds, etc. (Garcea & Gilchrist, 2009). One administrator said that the conditions are very uncertain because of such fragmentation, and it is hard to operate and plan in such circumstances:

> The unique challenges for planning in a small town are uncertainty with respect to numerous factors over which we have no control, such factors include assessment base, level of services provided by other services providers (e.g. health care, will our hospital stay open, etc.), local industry and commerce (will our elevators stay open or will another industry or commercial enterprise start up to provide jobs for local residents?) (Interview, 4a).

The nature of the municipal structure and planning in Saskatchewan calls for some revisions and reconsiderations in order to optimize the planning process and increase the possibilities for SD and integration of SA in a community planning.

A careless, unplanned transition to planning for SD may put additional pressure on the financial and human resources of small towns. Instead of bringing positive changes, SD may actually be harmful to the communities if it is not approached with care: small towns will still have to address all the problems that occur in their communities on a daily basis. But in addition to that, they will have to spend resources on implementing changes. One of the administrators said that small towns are already at the limit of their resources:

> ... the current municipal system, the office resources in most cases are taxed to the limit and this planning exercises, it might be on the top of the want to do list, but as the daily work goes on, it gets moved down below the other have to do things, and that's a huge undertaking for the existing municipal staff, so that's almost like we need outside resources to assist with that (Interview, 12a).

Hodge (2003: 295) states: “In light of most small towns’ meagre resources for administering any king of regulations, it is important to avoid implementation tools that require continual and demanding administration.” Devuyst (2001) reported that in the early 2000s, 71.9% of Belgian municipalities could not adopt SD initiatives, due to the lack of money or time. Sustainability planning is constructed to try to prevent problems from occurring, thereby eliminating the

problem in the first place, rather than dealing with the consequences or symptoms of a bigger problem. Thus, it is important to approach the transition to SD in a tempered way and to develop an approach that will gradually substitute the current practices for more sustainability, and not merely to impose additional responsibilities on the already stressed communities.

4.4.2 Critical Analysis of the SK *Sustainability Checklist of Municipalities*, 2009

The *Checklist* developed by the Government of Saskatchewan and tools similar to it are rarely applied in small towns. Further development or refinement of the SK *Checklist* and tools like it may be premature or useless, until the government finds out why this is so. This study did not find the chief reason why such tools were not applied. But one of the real possibilities is the lack of practical engagement with SD among small communities and therefore a lack of interest in the tools that assist with it. As mentioned in Section 4.1, a number of administrators said that they saw the *Checklist* but did not proceed with completing it. For example: "I was aware of its existence before you sent it to me. Have I actually used or read through it, I have to be honest and say no," (Interview, 9a) and "I've looked at it, I think it is a pretty good document, but my council has not…they've not shown their interest so far" (Interview, 1a). Also, lack of expertise regarding SD is another reason for overlooking the *Checklist*: "…strictly because we don't have the expertise to do it" (Interview, 10a). Hodge (2003: 291) says that it is important to approach planning in small towns with an understanding of the situation:

> The essential point to be made in planning for small towns is that planning approaches should be small town approaches. Most of our planning tools are more suitable for large communities than for small ones. Planners of small towns consider whether the tools they propose to use are appropriate to the problems and capabilities of small communities. The planning situation usually features a distinctive set of easily identifiable problems that call for seemingly mundane solutions, rather than an abstract arrangement of land uses. Moreover, plans and planning instruments need to match the resources and the capabilities of a few hard-pressed and often untrained municipal officials.

Devuyst (2000: 71) analyzed the integration of EIA and SEA in Belgian municipalities, concluding that "the introduction of SEA or sustainability assessment at the local level will not be easy and will need to be accompanied by financial and technical support from higher authorities and institutions" (this probably also applies to the introduction of SA to the local level). Brulle et al., (2012: 170) addressing the political involvement in climate change issues in the USA, say that "Unless an issue is widely perceived as a major threat and/or a priority, it is unlikely to be on the agenda." No matter what the specific reason is behind the lack of uptake on the provided tools, it is clear that the problem needs to be understood better and addressed before

investing in more elaborated SA tools. (However, if the problem is that there is a lack of tools specifically designed for small towns, then they need to be developed).

The *Checklist* evaluates the viability of a municipal corporation, rather than community sustainability; however, its title sends a message that sustainability is the main focus of the assessment. The Alberta Association of Municipal Districts and Countries (AAMDC) (2009) says that terms viability and sustainability are related and often used interchangeably; however, depending on the context, the terms can have very distinct meanings. According to AAMDC, when it comes to a community context, " 'sustainability' commonly refers to planning or initiatives undertaken by a group of people with a shared identity to ensure the long-term success of their community" (AAMCD, 2009: 5). By contrast, " 'viability' commonly refers to a municipality's ability to deliver on its legislative requirements (e.g. provision of services) in the present or short-term future" (AAMCD, 2009: 5). Thus, it is important to understand that ensuring municipal viability does not guarantee that the community is sustainable. The *Checklist* is said to analyze the health of a municipality; to evaluate how well a municipality delivers the services to the community; how well it manages the resources; and whether it keeps the qualifications up-to-date. However, the word 'sustainability' in the title (recall that the full name is *Sustainability Checklist for Municipalities: A Guide for Elected Officials, Municipal Staff and Community Members*) directly indicates that the scope is broader than just optimal organizational management. This can create a lot of confusion, since checklists that evaluate municipal viability concentrate only on ensuring that municipal operations are up to standard and do not concentrate on areas important for the sustainability of a community. Sustainability is a holistic concept that is based on the approach that all the areas within a system (a community, in this case) are interconnected and dependent on each other (Gibson et al., 2005). In the case of a small town municipality, the closely linked system would actually be the community itself, because the health of a municipality is impossible without the existence of at least some sort of a community. Even though administrations are not in charge of every aspect in a community, it is important to understand current conditions of a town. Both types of tools are important and have their place; however, it is also important to be clear about the role that each has and to apply each accordingly.

Two of the administrators said that the *Checklist* is too generic and does not reflect unique characteristics of communities of different sizes. However, these administrators did not

know how to fix this problem, since every small community has its own characteristics. For example:

> ... it is maybe too generic but I don't know how you can do anything to have a tool for all Saskatchewan, I don't know whether you can have anything but generic. I guess it would be up to each community to try to adapt to their own unique circumstances (Interview, 1a).

One possible reason that the *Checklist* is so generic is because it is designed to be applied in communities of different sizes, ranging from rural municipalities to big cities (from an interview). Small communities are complicated enough on their own without having the *Checklist* try to address all of the different sizes of settlements. Douglas (2010: 3) states:

> Rural is, above all else, heterogeneous. This is not a problem in itself, except if we start to develop a cookie-cutter approach to resolving issues and planning for change and managing it. The key is really identifying the imperatives and guiding principles (as well as the generic questions to ask of each community), all the time expecting and respecting unique configurations of the results of solutions.

A couple of administrators complained that there is a lack of tools that would be designed specifically for small towns, and most likely, if municipalities in bigger cities were asked the same question, they would similarly complain that the existing tools do not reflect all the specifics of bigger cities and that they are oversimplified. For example, it was said in one of the interviews "… some of the tools that are out there aren't that friendly to our use, so they are not drafted for small communities" (Interview, 10a). However, it is also hard to develop a tool that would be applicable to all of the municipalities and at the same time reflect all of their differences. It might be prudent to have at minimum of three types of the SA checklist for municipalities of different sizes: for example, one for each of the cities, towns and rural areas. In this way, the checklists would actually be able to address some of the unique features of each type of community and to provide some ideas on further courses of action. This research showed that most of the available SA tools are quite generic: even the monitoring programs that were designed specifically for a particular community can be potentially applied to other communities.

The *Checklist* sufficiently covers just one criterion from Gibson's framework, and partially covers two other criteria, which shows that the *Checklist* is quite limited in the scope of its application. The results clearly show that the *Checklist* is insufficient when it comes to some of the areas of sustainability that it evaluates: it only evaluates the viability of a municipal administration; how well human and financial resources within administrations are managed; and how well municipal services are provided. Thus, nothing that could be even remotely connected

to the social, economic and environmental aspects of sustainability is addressed. This tool effectively lacks most of the qualities that should be present in any SA tool or framework. As was mentioned earlier in this section, sustainability is based on integration. Bossel (1999: 6) describes it in the following way:

> The total system of which human society is a part, and on which it depends for support, is made up of a large number of component systems. The whole cannot function properly and is not viable and sustainable if individual component systems cannot function properly, i.e., if they are not viable and sustainable. Sustainable development is possible only if component systems as well as the total system are viable.

The source of this shortcoming may be that the *Checklist* is designed to evaluate just the areas that are under the direct supervision of the administrations. However, because local administrations are currently in charge of such limited numbers of areas, it seems to be impossible to evaluate areas that are only under the direct supervision of administrations, while also staying true to all of the SA's criteria. Currently, administrations are generally in charge of the physical aspects of planning, financial, administrative aspects, recreational and cultural activities in the communities (Garcea & Gilchrist, 2009). Due to the fact that local municipalities are some of the few that are entitled to support the holistic well-being of a community, it is vital that they have the complete picture of the situation in towns.

The research results show that in the majority of North American SA self-assessment tools reviewed, the environment is one of the least emphasized areas for evaluation. The common trend for self-assessment tools is to contain only some basic information on municipal operations (some tools are more comprehensive and include some aspects of community life). It was mentioned on multiple occasions during the interviews that environment per se is not one of the areas that is under the direct responsibilities of the administrations and perhaps that is the reason for it to be often ignored in checklists. However, according to the interviews, such areas as land use planning, solid waste management, waste water and fresh water management (which are all considered to be part of environmental planning) fall under municipal jurisdiction. However, interestingly enough, already monitored programs include areas of evaluation beyond those in the self-assessment tools, and one of those areas is commonly the environment. Therefore, there is an understanding that environmental aspects are important when it comes to sustainability of a community, but it seems that because it is not under the direct supervision of administrations, it is omitted from the self-assessment tools. Therefore, careful reconsideration is

needed on where the environment stands in relation to municipal responsibilities and how and by whom this area should be monitored, so that it is taken into consideration when the future well-being of a community is concerned.

All of the tools reviewed concentrate only on regulating and optimizing current conditions: none of the tools reviewed bring anything new to the table that would question current practices and inspire a more sustainable small town lifestyle. Possibly the reason for this is that the existing tools for evaluating community sustainability are being designed to fit into the current planning system; thus, they mostly focus on optimizing current lifestyles to minimize negative impacts. None of the tools actually provides the community with anything to strive for. However, the results indicate that the administrative structures themselves are often the main obstacles on the way to implementing sustainable planning in the communities. For example, a lack of communication among organizations within communities; reactive planning; limited capabilities of administrations per se; etc. were commonly noted by interviewees. Truffer et al. (2010: 258) says, "There is emerging agreement among ecological economics scholars that fundamental transformations of sector structures are needed to confront global environmental problems." Thus, SD often requires more than just adjusting and optimizing current operations. Oftentimes what is needed is digging into the root of the problem and analyzing what in the current system is not effective anymore in the paradigm of sustainable living.

There was no consistency among evaluative categories that constituted the SA tools reviewed: some categories that were extensively covered by some tools were completely absent from the others. For example, an environmental section was not included in most of the self-assessment checklists, but was included in monitoring programs. Also, questions on community emergency planning were included in only two of the reviewed tools (*Municipal Sustainability Self-Assessment Tool Kit* (Newfoundland and Labrador) and *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments*). Presumably, the reason for that is that the design of tools was in large part based on personal judgment, without relying on established SA or SD frameworks or guidelines. This potentially creates a lot of confusion around and misinterpretation of the concept of sustainability and concerning what SA tools are meant to achieve. Lack of uniformity clearly indicates the need for guidelines that would bring consistency and thoroughness to SA tools. Without established guidelines, this trend probably

will continue and will result in a vast number of tools that only partially address sustainability criteria.

There is no standard protocol or strategy on how to integrate sustainability criteria into town planning processes. Since a holistic approach to planning is not common in small towns, according to most of the administrations, it is hard to shift from dealing with problems on a "one-off" basis to seeing the problems as part of a bigger system and dealing with problems on broader scales of time and space. The shift to planning for sustainability will take more than merely adjusting some of the current planning practices, and must also include changing the planning process itself, in a way to accommodate SD. Many of the administrators admitted that even though a number of the proposed indicators are relevant to the future sustainability of their community, there is no point in measuring those areas, since there is no use for data procured within the current planning system, and subsequently no justification for the spent resources. One of the administrators described it in the following way:

> How would the councils justify the cost of measuring all of these things in relation to the benefit that it would get then? It is just something to keep in mind, I think. You can do all kinds of studies, but if doesn't provide a sufficient payback for the cost that is involved in, you don't want to do studies just for the sake of doing studies (Interview, 15b).

Thus, even though municipalities can potentially measure or address all of the important aspects of SA, it is important to understand how to integrate all that information into planning in a way that meets the intended purpose and brings noticeable and important benefits to communities.

The following chapter reports the reaction of town administrators to the adapted list of SA criteria and their complementary indicators, as presented in Table 4.6, and summarizes the challenges that small towns might face in assessing and monitoring the indicators suggested for each criterion.

CHAPTER 5

RESULTS AND DISCUSSION:
SA INDICATORS FOR SMALL TOWNS

5.1 Review of Proposed Indicators and Challenges to Sustainable Futures in Small Towns of Saskatchewan

5.1.1. Socio-Ecological System Integrity

Most of the communities studied admitted that they do not have problems in preserving healthy biophysical environments because of the fortunate pre-existing environmental conditions and a lack of negative impact from the communities themselves. The only concern that communities have is to how they manage and dispose of their wastewater and solid waste. Proper facilities are required for that, and once again the main concern is money, because it costs money to build and upgrade facilities and infrastructure to a level at which they have a lower environmental impact. Additionally, there is always uncertainty about the long-term maintenance cost and commitment that communities engage in, once they try to change some practices in their towns.

> We can build the facilities and the infrastructure, but being able to understand the long-term commitment you are making when you build something to maintaining, and upgrading, and improving, and then eventually replacing; the understanding of that is one of the biggest challenges we have, because councils change and when they change sometimes priorities change (Interview, 10a).

Three of the administrators admitted that one of the biggest challenges in the area of environmental management is trying to meet all the provincial regulations and by-laws imposed on the communities (e.g. water treatment and landfills, etc.): managing these areas in more environmentally friendly ways puts additional pressure on the capacity base of small communities. Many communities complained that particularly new regulations inflicted an additional cost in managing solid waste disposal (burning of waste is forbidden; thus landfills fill up faster and communities must invest money in developing new ones or in paying more to use regional landfills).

Persuading people to treat natural resources and the surrounding environment better is a challenge, because there is lack of awareness and concern about environmental protection in what appear to be the current 'pristine' conditions. Residents fail to perceive the necessity of investing in natural resources and their surrounding environment:

> I think those ones would probably be the biggest ones is getting the public to accept and adopt and buy into new ideas and then finding the money to fund some of these things, because sometimes it's going to cost more and in some cases to do things differently than the way we've been doing them (Interview, 9a).

Certain parts of the population have grown accustomed to doing things in the 'old' ways and do not always see the necessity of changing things, particularly when change involves having to pay more. One of the administrators referred to this: "they don't understand the need to change and they don't understand the costs, the real costs of not improving the ways that we do handle some of these things" (Interview, 9a). One of the reasons for the inertia is that people have become used to getting many services (e.g. solid waste disposal, fresh water, electricity) free, or relatively cheaply. Thus, the abundance of resources has created a mindset that there is no reason to worry about them, and currently it is hard to change that mindset among citizens.

Responses to Indicators: The majority of respondents admitted that although this section is somehow relevant to their communities, most did not perceive measuring environmental indicators as something crucial. Fresh water (n=9), air quality (n=4) and land (n=5) were said to be the only aspects of environmental care that were perceived relevant. However, air quality is monitored (n=4), in case if there are some industries located in the surrounding areas. More than half of the administrators said that measuring atmospheric pollution is perceived to be complicated and unnecessary for small towns (it was said to be more the responsibility of a bigger centre), since small towns are not perceived to have an extensive footprint on the environment (n=7). When it comes to land, mostly it is of interest for considering future residential and commercial development (while use of pesticides is said to be the responsibility of rural municipalities) (n=4). Biodiversity is one of the areas that is perceived to be irrelevant to small towns (n=6), again because small communities are not perceived to have a big impact on the surrounding lands, it was mentioned by an administrator that:

> […] most of these small towns have such a small footprint, there is not a lot of land that we are talking about here, so I think things like that would be sort of a minimal consequence based on smaller communities. I don't think that we have a great impact on the ecology of a big area because we are not very big (Interview, 9b).

The main problem for not measuring this section is a lack of human and financial capacity: even though some of the towns are interested in some of the information, they do not have sufficient expertise in their own financial capacity to conduct the necessary testing (n=7). Another reason (n=3) is the lack of control respondents feel over many aspects surrounding community life:

> [...] the scope of a plan for land-use and use of natural resources involves areas far beyond the scope of the small urban town. We have control of such a small area that although we have huge interest in a regional concept of that, what the area that we actually can call is very minute within that (Interview, 12b).

Other factors, like atmosphere and biodiversity, are said to be too difficult for municipalities to measure (expertise and technology) (n=2), or to access information that would allow those municipalities to draw some conclusions (n=2). Lack of application for the received information is another reason that affects the degree of political will and financial support for such testing (n=3). Also, three of the municipalities said that they do not measure indicators for the environment (esp. land and atmosphere), because they currently do not have any environmental issues (n=3).

Table 5.1 Detailed responses to "socio-ecological indicators"[20]

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Atmosphere		●●●●●(5)		●●●(3)
Climate Change		●●(2)		●(1)
Ozone Layer Depletion		●●(2)		●(1)
Air Quality	●●●●(4)	●●(2)	●(1)	●●●(3)
Land				●●(2)
Agriculture		●●●●(4)		●●(2)
Desertification		●●●●(4)		●●(2)
Salination		●●●●(4)		●●(2)
Erosion		●●●●(4)		●●(2)
Urbanization				●●(2)
Not Specified	●●(2)		●(1)	●●●(3)
Other- Land for Development	●●●(3)			●●●(3)
Fresh Water Quality	●●●●●●●●●(9)		●●●●●●●●●(9)	●●●●●●●●●(9)
Biodiversity	●(1)	●●●●●●(6)	●(1)	●●(2)
Planning for the Environment			●(1)	●●●●●●(6)

[20] Note: If a community reported that they measure some area, but they did not mention before that it is relevant to small towns, those communities were counted into the 'relevant' column as well. (This applies to all of the following sections in this chapter).

5.1.2. Livelihood Sufficiency and Opportunity

Economic: Most of the communities admit that they are struggling to create stable economies in their towns. The more successful ones are the ones who have succeeded in diversifying their economy and that have at least a couple of big industries and many small businesses in or around a town. More than half of the municipalities agree that their communities are struggling, when it comes to diversifying sources of income and that unfortunately there is just one main industry that supplies residents with jobs and the town with income. Communities agree that this creates a very unstable situation and it is a threat to the well-being of their town; however, it seems that in many cases there is little that municipalities can do about that on their own:

> Communities are looking for things to happen, but we find that we just about left our own to get it done and that's really not our role in society. You can have all your plans that you want as a community, you plan to develop a civic amend or lime stone or some type of forest industry or a coal deposit. The community itself can only identify that there is an opportunity there, the community itself does not have an opportunity in putting that project further other than to create best open environment for business as they can. So in a low fence of the world, they are almost helpless in terms of developments that lead to job creation, except maybe in the areas such as tourism or municipal corporation can develop parks, and recreation areas, and campgrounds and this kind of thing, when they actually have capability of putting it in place (Interview, 12a).

Communities are trying to find ways to attract new investment into their towns; however, some admitted that so far they have not been quite successful in that. Some of the conditions that are exclusive to small communities are less favorable for attracting new investments: tax rates are higher; communities can be in a remote location; some of the roads are often not in good condition. Many administrators seem frustrated about the lack of control over many things in their communities and the fact that this makes it harder to plan for future growth and development. Moreover, Saskatchewan is historically an agricultural province and agriculture is still one of the main industries in the province (an industry which is highly sensitive to the weather, which creates additional uncertainty in the future):

> […] the effects of weather event on the agricultural industry, because that's big to rural Saskatchewan everywhere. This spring there have been number of acres that haven't been seeded, that's definitely is going to affect the local economy. With all this been said, if farmers don't have money, nobody has money, if farmers have money, everybody does. They are big part of the economy. And those are just things you can't predict, every year is different (Interview, 11a).

Some admit that they understand that diversifying local industries and bringing in other sources of income besides agriculture would be beneficial, but so far they have not been successful in achieving that.

Surprisingly so, the second biggest problem that effects economic well-being of the communities is a lack of housing, especially affordable and rental housing. Saskatchewan is escalating its development of natural resources, which are mostly located in rural areas: this would seem to be a great opportunity for communities to grow. However, there is inadequate housing to accommodate all the people who want to move into communities and to work in the neighbouring areas. This factor has a serious negative effect in bringing new people into the community:

> We [community] are experiencing difficulties in trying to hire staff just because workers do not have available housing as well, prices of housing has gotten quite high in here, so affordable housing I believe starting to become an issue. […] if you are trying to attract people to your community, employers, employees, whatever, I think definitely you've got to have workers and you've got to have housing, I think they are very important (Interview, 11b).

Additionally, prices for housing have increased (including rent), so that even if there are houses for sale in the communities, in many cases they are not affordable for the people who want to move into them.

There is a dilemma when it comes to "attracting new businesses while preserving the existing." New types of retail business have very different styles from the old ones: "We've got quite a shift in our community happening from say downtown small 'mom and pop's' stores to warehouse style oil field shops and supply shops" (Interview, 10a). As new stores are built on the perimeter of towns, local small businesses close down, so that city centres face a slow decline. The decline of downtowns and local small businesses is one of the problems in small communities. Additionally, with increased mobility, many people prefer to go shopping or to recreational facilities in major cities, so that small local businesses have difficulty competing with opportunities elsewhere. One of the administrators said that it is important "to have critical mass of population to sustain businesses" (Interview, 1a), and not just people who live in the communities but people who actually use their services: unfortunately, that is becoming a big problem in small centres.

Small communities have a serious shortage of professionals that can support local economies. On one side, there is a lack of skilled professionals like engineers, planners, electricians, etc. But on the other side, there are also many businesses with entry-level positions

and service jobs that are also struggling to find new employees. One administrator said that in cities those jobs are filled with university and high school students, but those students are not available in smaller towns, so that it is hard to find adults who are willing to accept entry-level positions. Another problem is that small centres must compete with the wages that are paid in mining and oil fields: small towns cannot afford to match the salaries that workers get there. Additionally, many small communities have fluctuating economies or 'boom and bust' cycles, for a long time, so that people do not trust that the conditions will stabilize, and thus they try to secure income from more 'stable' sources.

Education: All of the communities reported that they have sufficient primary education in their communities from kindergarten to high school. However, many communities said that there is a need to improve post-secondary educational facilities in towns. Only 3 out of 15 communities reported having community or regional colleges. And even those face challenges, such as a lack of financial support or insufficient attendance. One of the administrators reported that because of the lack of educational opportunities at the post-secondary level, communities lose many young people:

> […] recent years had cut back on its services, so that maybe lacking as far as post-secondary education. And of course beyond the community college, that's where you have to go to a larger center and that's where we lose quite a number of our young people too, as larger centers for their education and most times in they don't come back to our community (Interview, 7a).

Housing: Almost half of the communities reported a lack of rental housing. As was mentioned in a previous section, housing is an important factor in a community's capacity to secure residents. Currently, there is a lack of rental or affordable housing that could accommodate young families or members of the workforce. Many communities have a sufficient real-estate market and have houses for sale, but often it is not affordable for people, especially for those who wish to rent. Also, many small communities do not get enough attention from developers, who could improve available housing:

> Well, in our town, it [planning for future growth] would be having adequate land for developing and timely development of that land for resell. We don't have any developers that come in and develop lots for resell, so we have to do it ourselves and we have to invest cost into developing the lots. So that's probably our biggest challenge because the financing of it, no one else is doing it for you, so right now we are sitting with approximately 1.5 million dollars worth of lots in inventory for resell (Interview, 10a).

In these kinds of cases, some communities take that responsibility upon themselves and invest in developing new lots, which creates additional financial burdens on their already-limited financial

resources. One community reported that a lack of housing for seniors causes part of the problem in the housing sector, since senior citizens remain living in single-dwelling houses that could otherwise be used as transitional residences for young families.

Jobs: As was mentioned earlier, Saskatchewan is experiencing an economic upswing that is in large part tied to intensified extraction of natural resources in rural areas. Thus many communities are starting to have large industrial developments nearby, which provide new jobs, so that more people come to live in surrounding communities. Finding employees for these jobs is becoming an issue. However, one-third of interviewed communities again emphasized that the lack of housing is the major reason that positions are not being filled. New industrial development in the province has created many positions; however, there is still a problem in ensuring the duration and consistency of employment opportunities. Many small towns in Saskatchewan are still agriculture-based; thus the available job market is tightly linked to that. When the agriculture industry is doing well, jobs are available in towns. But when there is a downside in agriculture, it affects overall well-being of the community. Moreover, jobs in agriculture have a unique feature: "... they are not jobs that people can just move to town and get [simply], because it's an agriculture community" (Interview, 8a). Also many employers have the mindset that the cost of living in small communities is lower than in big cities, so that the wages offered are often unreasonably low. One of the administrators commented:

> Well it's a false statement, because the cost of housing and the cost of food and the cost of all the other things are still the same for us, pretty much the same as they are in the city. Our tax bases about the same, our cost of food is obviously is the same if not a little bit higher, our cost of housing currently is a little bit lower than the cities, but you know it has expanded like everything else. That's a concern and that has an effect on housing where people are getting slightly lower wages and can't afford to make that first home purchase or do those certain things, so they are kind of relegated to that rental accommodation (Interview, 13a).

Medical System: One-third of the communities reported that they have sufficient medical care in their communities; however, more than half of the communities in this study have problems in maintaining that. The problem is in attracting physicians who will remain in communities for a long time: in many cases, doctors come and go, creating inconsistent rural medical care. One of administrators commented: "Medical care, finding doctors to come to small towns is very difficult. We can't offer incentives high enough to beat neighboring communities, very often it is kind of a bidding war with doctors" (Interview, 15a). Rural communities have to invest additional money to retain doctors in their towns, otherwise they risk losing them to another communities. This reality creates constant competition for health care providers, among

small towns and cities. Also, some communities have an insufficient number of doctors, which puts additional pressure on the existing ones and so creates unfavorable working conditions. Also, the percentage of senior residents is increasing in small towns; this trend puts additional demands on medical care, because seniors tend to require additional facilities and services.

Response to Indicators: All of the municipalities said that this section is "very-very good" and that it contains "very important things." Although some of the municipalities said that some of the areas are not under their control, administrators agreed that the whole section is important and relevant:

> I think all of them are in this case [relevant]. There is really nothing here that I think would be ignored, they are all relevant and they are all important. And as we are looking at things, these are things that we are paying attention to now (Interview, 9b).

One of the administrators said that when it comes to small towns in particular, the areas described in this section are the areas that rural municipalities get involved in, which would not be the case in big cities. One of the areas that municipalities get involved in is healthcare, even though it is not their direct responsibility (n=6). One municipality reported that "we seem to be getting more and more involved in health care, more and more involved in doctor recruitment and trying to recruit health care providers in our community."

When it comes to reporting reasons that rural municipalities do not assess certain aspects of life in town, the primary ones were: lack of financial and human capacity (n=2); and difficulties to find and access information for conducting an assessment (especially since some areas are beyond a town's jurisdiction) (n=3). In some cases, municipalities also do not get involved in monitoring some issues, for example the affordability of housing, because:

> [...] there is not a lot we can do about it anyway. It's a good one to have in there but again, what have we got to do, we don't have the money to build low-cost housing; that has to come from higher-up, like other levels of government (Interview, 15b).

Administrators confirmed that every aspect, even those not directly under the control of administration, is important for a well-being of a community:

> I think it is definitely pretty much all important, because if you don't have good healthcare and education and housing, we can't bring people to your community. Than as well on top of that, you need to have the business here to draw the people as well so they don't have to go outside of their community. So to me, all of these are very important part of our town…the recreational facilities, the infrastructure, this section is what we deal with more so on our daily basis is this section here (Interview, 2b).

Mostly, administrators said that this section of the *Checklist* is complete as it is and includes all

of the important issues: the only suggestion was to include an indicator specifically highlighting the nature of the rental market (n=1).

Table 5.2 Responses on "livelihood sufficiency and opportunity"

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Economic	●●●●●●●●(8)		●●●●(4)	●●●●●●●●●●●●(12)
Commercial Development	●●●●●●●●●(9)		●●●●●●●(7)	●●●●●●●●●●●●(12)
Education	●●●●●●●●(8)		●●●●●●(6)	●●●●●●●●●●●●(12)
Health Care	●●●●●●●●●●(10)		●●●●●●(6)	●●●●●●●●●●●●(12)
Housing	●●●●●●●●●(9)		●●●●(4)	●●●●●●●●●●●●(12)
Infrastructure	●●●●●●●●●●(10)		●●●●●●(6)	●●●●●●●●●●●●(12)
Crime	●●●●●●●●●(9)		●●●●●(5)	●●●●●●●●●●●●(12)
Recreational Facilities	●●●●●●●●●●●(11)		●●●●●●●(7)	●●●●●●●●●●●●(12)
Cultural	●●●●●●●●(8)		●●●(3)	●●●●●●●●●●●●(12)
Town Revenue	●●●●●●●●●●(10)		●●●●●●●(7)	●●●●●●●●●●●●(12)
Satisfaction Surveys	●●●●●●(6)		●●(2)	●●●●●●●●●●●●(12)

5.1.3. Intra-Generational Equity

When interviewees were asked about this section in the first round of interviews, the question was: "What are the main challenges in providing proper jobs, housing, medical care and education to all economic and social classes in your community?" Respondents focused mostly on difficulties in providing all of those services to people in their communities and less on providing those services to low-income families or on other inequalities in their communities. (It was reported during the second round of interviewees that small towns do not have issues in those areas.) Thus, people's responses from round one were included in the "livelihood sufficiency and opportunity" section.

Response to Indicators: The general opinion of respondents on this section is that it is not applicable to small towns, and that there are no issues in those areas. Moreover, administrators said, even if there are issues, there is nothing that a municipality can do about them. Some administrators agreed that this information would be interesting to have, but they were not sure

how they could use it (n=3). Others said that this section has more relevance to bigger urban centres rather than to small towns (n=3).

> Small municipality, no I don't think small municipality would have the resources to address or that problem would be such a size that would require addressing (Interview, 12b).

> Some of it again, like housing, we don't have anything for homeless, we don't have anything for victims of domestic violence, we don't have a lot of that stuff, so we do have special housing for seniors... But not having those things, I don't think it makes us not sustainable (Interview, 15b).

Housing is the one sector that is monitored by half of the interviewed communities (7 out of 13), although one of them said that they have an organization in charge of that and that the administration gets involved only when "there is anything we can do by waving the tax concession if they build a home for the disabled or that kind of thing" (Interview, 2b). Employment is another sector that was perceived important by more than one person; five of the communities monitor this section. One of the administrators said: "a lot of the jobs in the smaller communities, they pay what they pay, there are a lot of union jobs and things like that, the gender is pretty much irrelevant" (Interview, 1b). This statement indicates the belief that salary is linked to the position and does not change depending on the gender of the person occupying that position (n=3). Also, because many of the industries in and around small towns are looking for new employees, "in the economic atmosphere we are here right now, our employers take everybody and anybody" (Interview, 10b). One administrator said that housing for seniors is something that would be relevant to them, rather than a shelter for homeless. Another administrator said that racial equity is becoming more relevant, since the amount of immigrants in small towns in Saskatchewan is increasing. Overall, the only areas that get any attention from the administrations would be housing and employment.

Half of the administrations said (n=7) that it would not hurt to include indicators in *Intra-Generational Equity* in the *Checklist*, although some of the information is not particularly relevant to them. Some of the responses were that "it is probably good information to have" (Interview, 15b); "I guess if you are looking at what's going on in your community you want to know the employment and social class" (Interview, 10b); and one administrator said that "maybe we should be looking at some of these kind of things" (Interview, 5b).

Table 5.3 Responses on “intra-generational equity”

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Social Class Equality	●(1)	●●●●●●●(7)		●●●●●●●(7)
Gender Equality		●●●●●●●●●(9)		●●●●●●●(7)
Racial Equality	●(1)	●●●●●●(6)		●●●●●●●(7)
Employment	●(1)	●●●●●●(6)	●●●●●(5)	●●●●●●●(7)
Housing	●●●●●●●●(8)	●●●●●●(6)	●●●(3)	●●●●●●●●●(9)

5.1.4. Viability for Future Generations

The biggest challenge with preserving communities’ well-being for future generations is to preserve infrastructure so that it is in good condition: the cost of maintaining infrastructural services is constantly growing and it is challenge to manage that cost efficiently, while keeping the tax base at an acceptable level. Administrators agreed that maintaining infrastructure in proper shape and keeping a variety of services are very important to making a community viable for the future. Some of the communities admitted it will be very hard for them to maintain their infrastructure without some assistance from outside. One of the administrators describes it in the following way:

> […] with the way the cost of infrastructure is going, it is going to be...without some help from the province, it is going to be very hard to maintain the community. The cost of pavement and staff is going to be on the shoulders of tax payers (and I can see the tax payers leaving), and also providing...making sure that services that we have through health care are maintained and we don't lose any more services, decentralization (Interview, 16a).

Most of the communities are at the point where their infrastructure reached 40-50 years of age and so need a big investment of money to replace it.

> Our major challenges is aging infrastructure, that's the major challenge I think of most small towns in Saskatchewan right now is finding the money to replace our infrastructure. If you don't have good infrastructure, it is hard to bring the people and to keep your community viable. So you have to be able to find a way to maintain that, so I think that would be a thing that we are dealing at the most is aging infrastructure (Interview, 2b).

Also, it is important to maintain all the assets that towns have, including recreational and public facilities, service facilities and “all those things that make town good” (Interview, 1a). Having such assets is again connected to having enough funds dedicated to properly maintain those facilities.

Of course, one of the aspects of ensuring the viability of a community is through maintaining its economic stability. These aspects link back to the issues discussed in the

Livelihood and Opportunity section. Ensuring that industries or other sources of employment remain in a town and remain able to provide jobs to people in a community is one of the important parameters for any town's sustainability. Also maintaining critical population mass is another important aspect: local business owners, administration and infrastructure workers need to be there, in order to maintain a town. And it is important to have young people ready to replace the existing workforce in a community. Unfortunately, there is an ongoing struggle with retaining young people in rural communities and with persuading them to invest their time and effort in developing their towns:

> Young people tend to not look for opportunities here but rather graduate from school and start looking somewhere else immediately, the sort of idea that they have to move away to make their way in the world. And that's not universal, there are lots of young folks who do stay, the majority don't. […] So once those people have left town, very few of them come back, at least for a few years we lose some of the most productive years of people's careers, because they feel that they have to go somewhere else to pursue their, whatever their career might be. So, if that continues to be a big issue is convincing the youth in the community that there are opportunities to invest and work a full rewarding career in here in the community without having to go to a big city somewhere to do that (Interview, 9a).

This criterion of Gibson`s framework was not included in the list of indicators, because concerning the evaluation of community sustainability, this issue is sufficiently addressed in other sections.

5.1.5. Resource Maintenance and Efficiency

Most of the communities reported that out of the natural resources, water is the only one they rely on as a municipality. Yet many rural communities in Saskatchewan already struggle with accessing a fresh water supply (Southern Saskatchewan is a prairie which is susceptible to droughts). Besides using water for domestic use, some rural communities have to share their water with other industries in towns that consume large amounts of fresh water (for example: poultry farm, mining industries). Many of the southern communities in Saskatchewan do not have a direct groundwater supply. Because they draw their water from wells and underground springs, they have a finite water supply. A limited water supply creates some restrictions to what can be developed within a community. (In some communities, water consumption is already at the limit, thus making it difficult to develop other industries that also need an extensive water supply). The fact that many communities do not metre residential water consumption has contributed to water scarcity: people "use more water than what we should be doing just because

we don't have to worry about paying for it" (Interview, 13a). Additionally, one of the biggest concerns when it comes to water supply is to protect the sources of water. One of the polluters is an agricultural industry that applies chemicals to the crops that are planted close to sources of water.

As was said earlier, Saskatchewan's economy is currently booming, mainly due to the extensive extraction of natural resources in rural areas. Therefore, such industries as mining, logging, gas and oil are the ones that are providing jobs for local population. However, the extraction of finite resources is not a sustainable practice: one of the reasons is that the resource base will eventually finish, so that these industries cannot be job providers indefinitely. Therefore, when industries develop new locations next to small towns, it is important to know and estimate the resource base, how long it will keep industries running and therefore, how long it will provide income to surrounding communities.

Responses to Indicators: The section on the Consumption and Production patterns was received with a lot of enthusiasm, since it was said to be quite important and relevant to small towns. However, Consumption and Production patterns is the only section that was perceived relevant (n=6), but the other areas (Tourism, Food, Fish, Forest and Transportation) are viewed as being more relevant to rural municipalities. One of the important sections to small towns is waste management (n=4):

> ...small towns have quite a time with waste management, especially solid waste management, trying to maintain landfill facilities and staff like that, and we don't have maybe the economy of scale that a larger center has, so certainly that waste management is quite relevant to sustainability of a small town (Interview, 7b).

In many small communities in Saskatchewan, landfill management is one of the most financially consuming areas (n=5); therefore, many communities monitor waste management and generation. Some also have recycling centres that take some of the load off the landfills (n=3). A fresh water audit is something that municipalities must do on a regular basis (in compliance with provincial by-laws and regulations) by professional assessors (n=6). Energy use is the next area that is being monitored by the municipalities (n=2), however, only when it comes to the consumption of buildings that belong to the town's administration, such as recreational facilities.

Study participants request to keep this proposed portion of the SA *Checklist* user-friendly, saying that once an assessment becomes too detailed, people will not invest the time and effort to complete it. The completion rate reflects the reality that most rural municipalities

operate with only a few people on their administrative teams.

Table 5.4 Responses on "resource maintenance and efficiency"

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Consumption and Production Patterns	●●●●●●●●●●(10)	●(1)	●●●(3)	●●●●●●●●●(9)
Energy Use	●●●●(4)	●(1)	●●●●(4)	●●●●●●●(7)
Waste Generation and Management	●●●●●●●(7)	●(1)	●●●●●(5)	●●●●●●●(7)
Fresh Water	●●●●●●(6)	●(1)	●●●●●●(6)	●●●●●●●●(8)
Wastewater	●●●●●●●(7)	●(1)	●●●●●●●(7)	●●●●●●●●(8)
Tourism	●●●●●●●●(8)	●●●(3)	●●●●●●(6)	●●●●●●●●(8)
Livestock		●●●●●●●●(8)		●●●●●●●●(8)
Food		●●●●●●●●●(9)		●●●●●●●●(8)
Transportation	●●●●●●(6)	●(1)	●●●(3)	●●●●●●●●(8)
Stormwater	●●●●●●●●(8)	●(1)	●●●(3)	●●●●●●●●(8)
Fish		●●●●●●●●(8)		●●●●●●●●(8)
Forests		●●●●●●●(7)		●●●●●●●●(8)

5.1.6. Community Engagement

Initiation from other members of the community, besides a town council's engagement, is an important component for developing sustainable practices. However apathy seems to be one of the most widespread problems that prevents cooperation between local municipalities and citizens. One of the administrators reported:

> […] we don't always get a good turnout. We quite frequently hold open houses or events to try to encourage members of public to come forward and bring their ideas and suggestions with them. Depending on the issue, we don't always get a good turnout. If it's something that is really controversial and people have really passionate opinions about, we usually do ok (Interview, 9a).

Four of the above-mentioned communities agreed that unless it is an important issue that bothers a lot of people, the majority of residents are not willing to participate in the day-to-day activities of a community. Two administrators said that people tend to rely on somebody else to make a decision and would rather complain after the decision has been made. One of the communities has experienced problems when it comes to council's attitude toward allowing citizens participate in the decision-making process. The respondent stated:

> I think the biggest challenge is that because there are a lot of groups that want to take part in decision making, especially arts and culture and recreation side, not so much the government side but the other side and they do get little bit of road block from some of our council (Interview, 1a).

Four of the administrators stated that there is no problem with citizens' engagement in their communities and that the community participates quite actively in the decision-making processes. (This includes various volunteering in communities, participation within panels, boards, open-houses and municipal elections.) However, even though current citizens actively participate in their communities, these citizens tend to be of older generations. There is a growing concern about how to engage younger generations in this process. The young part of the population proves to be less engaged in community life than people used to be. One of the administrators admitted that the factor of age has an impact on the communal life: "Previously, to a large extent, natural, social and cultural amenities of a community were enhanced by a strong volunteer base. For various reasons, the younger generation finds themselves in a position of having less time for volunteering activities" (Interview, 4a). Also, some administrators said that a sense of community is being lost, because new people move from other centres and they do not have the same sense of attachment to the place (compared to the people who were living there for a long time). Therefore, these newcomers do not contribute as much to the community as older residents do (e.g. volunteering), but have high demands for the quality and variety of provided services (municipal and recreational), that are often too costly for small towns to maintain.

5.1.7. Precaution and Adaptation

When it comes to planning and being prepared for unexpected events, the biggest problem seems to be not having the funds needed to support proactive planning or implementing those plans (n=4). Three of the communities said that people lacked knowledge in this area and that finding extra time for proactive planning is a problem. Also, convincing people of the importance of proactive planning is a challenge, since not everyone sees the importance of it and will implement those plans. An administrator of one of the towns said that over the years, their town has been involved in many regional cooperation and enterprise regions, as well and tourist development programs, etc. All of these activities started with planning that required lots of time and resources; however, in most of the cases, communities failed to carry on with the set plan of action. People have seen many plans being made, but not many of them actually implemented, thus setting an attitude that plans do not work.

Administrators (5 out of 15) admitted that this suggested section of the sustainability criteria is hard to address, since it is hard to predict what can happen, and therefore it is hard to plan and be prepared for those events. (One of the administrators said that there are no plans because "nobody ever foresees it that community is going to be destroyed by some economic or natural condition" [Interview, 13a]). Moreover one administrator admitted that some things cannot be addressed even with the best of plans:

> [...] even if I have thought about things like that I don't know which plans you can have in place if you had an economic disaster, I don't know what municipal government can do to…there are usually bigger forces that are dictating things like that (Interview, 1a).

Additionally, having funds set aside in case of a disaster or to invest into being prepared (in terms of equipment, etc.) is not something that every community can afford.

Responses to Indicators: Many of the interviewed administrators said that "precaution and adaptation" section is relevant to small towns (n=10), although for different reasons not all of the sections are monitored or measured. Many points in this section are covered under the requirements for the Official Community Plan (OCP), so that many of the municipalities have at least some of the points covered. Overall response was that this section is important, but hard to fulfill with the current financial and human capabilities. One of the administrators said:

> So this is something every community should have, and this is something that every community does need to look at and see how well prepared they are. There are actually a lot of good things on here just to remind a person of what you can do to be more ready for these types of things (Interview, 2b).

Economic adaptation gets the most attention, and some of the towns already monitor that area or at least some of the elements in that area (n=6). Being prepared for natural disasters and service delivery in case of a disaster is already being partially covered under the requirements for an Emergency Measures Operations Plan (EMO), so that municipalities are addressing it. Four of the administrators said that measuring climate change would not be relevant to their communities; however one administrator said that the Climate Change section should be included, because it will become a bigger issue with a time, so that people should start to be aware of it. Two of the communities said that being ready for technological hazards is definitely an important factor and that they are somehow prepared for that; however, when it comes to medical emergencies, it was said that they should be monitored on the provincial scale. Interestingly, although most of the interviewed communities are located in drought-prone areas, just one of the communities had a drought preparedness plan.

The main reason for not monitoring some points in this section was a lack of human and financial capacity (7 out of 13):

> [...] there is a lot of staff in here that communities don't know or don't have the capacity to find out, because there is just not enough funding available, but I do believe that there are certainly relevance to this section, it is just the cost of trying to come to terms with it when you have so many other day-to-day cost and they are eating up your budget (Interview, 7b).

Also for the communities just to be able to implement the designed plans is another challenge:

> The main challenge is, you get the plans in place and then people change and nothing is ever perfect I guess, someone is may be out of town that needs to be part of the plan or it is a challenge of getting people prepared or getting them to listen. It is a bit of an expense too, so having the resources to be able to have everything in place, like we would like to have our generator at every one of our facilities in case if power goes out, or if we need it for emergency measures center, so it is a cost (Interview, 6b).

Other reasons that were given are: it is not seen as necessary before it happens (-- i.e. lack of proactive planning), and so lacks the town's support. Two of the administrators said that although it would be useful for a community to have an emergency plan, in case of unexpected natural or economic events, they do not see it as part of sustainability. Although small municipalities agreed that most of the sections are applicable to small towns, it is still important to select appropriate indicators that would apply to the small town's financial and human capacity.

Table 5.5 Responses on "precaution and adaptation"

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Economic Adaptation	●●●●●●●●●● (10)		●●●●●●●●●●(11)	●●●●●●●●●●(11)
Economic Development Plan	●(1)		●●●●●●(6)	
Primary Economic Drivers	●●(2)		●●●●●(5)	
Planning for Natural Disasters	●●●●●●●●●(9)		●●●●●●●●●●●●(12)	●●●●●●●●●●(11)
Drought Preparedness Plan	●(1)	●●●(3)	●●(2)	
Master Comprehensive Plan	●●●(3)		●●●(3)	
Emergency Operations Plan	●●●●(4)		●●●●(4)	
Warning system/ evacuation plan	●(1)		●(1)	
Point of contact	●(1)		●(1)	
Service Delivery in Case of a Disaster	●●●●●●●(7)		●●●(3)	●●●●●●●●●●(11)
Mutual Aid Agreement	●●(2)		●●(2)	
Funding for Emergencies	●●●(3)		●●(2)	
Service Continuity Plan	●●(2)		●(1)	
Planning for Medical and Technological Emergencies	●●●●●●●●(8)	●●(2)	●●●(3)	●●●●●●●●●●(11)
Technological Hazards	●●(2)			
Planning for Climate Change	●(1)	●●●●(4)	●●●(3)	●●●●●●●●●●●(12)

5.1.8. Immediate and Long-Term Integration

The biggest problem with promoting sustainable practices in a small community is cost; more than half of the respondents stated this as the main obstacle. For example:

> I think it's making people understand [the main problem with "immediate and long-term integration"] that all of these things of implementation of… different practices have a cost associated with them, and many members of the public just cannot understand that. "Why should it cost us money?" And it does, and the long-term benefits economic and social and environmental of developing planning like that far outweighs the initial cost of implementation, there far more benefits to be gained over the long-term that the initial cost. But it is that initial pain that they don't want, they don't understand (Interview, 13a).

Two of the administrators said that money is always spent on fixing current problems rather than being invested into long-term planning. Also an administrator reported that it would also be a challenge to make sure that there are "resources to follow through on what we need to do [e.g. future plans, sustainable practices]" (Interview, 16a). Besides lacking financial capabilities to implement sustainable practices, communities experience a lack of human resources, expertise or capabilities to execute the task. A possible way to address those challenges is to advance regional cooperation that would enable resource sharing between communities, and thus broaden the capabilities of each of the communities.

The second biggest issue would be persuading a community and a council to support implementing new ways of doing things (6 out of 15 administrators stated that). There are multiple reasons for the lack of public support: it can be a money matter, lack of interest, etc. One administrator said that it is hard to persuade the older generation to care about community's future, since it is hard to go beyond the mindset of 'a single generation.' Older residents have the opinion that "we did our share." Another problem is to persuade the community to invest money in future planning and sustainable practices, to make them understand why it is important to invest the money now. Also, the public does not always understand why there is a need to change the way things are done, since it has been done that way for hundreds of years:

> Again public buying, getting our resident's to recognize the value of changing some of our ways and doing things better, doing things more efficiently, overcoming some of those negative perceptions that there is no value in those things. That we've been doing it this way for the last 100 years: "Why can't we just continue to do it the same way for the next 100 years?" You know, some of that, just fear of change and just a lack of understanding of the need that's very real to adopt different practices with respect of future developments (Interview, 9a).

There was an opinion that there is a lack of understanding of what sustainable growth exactly is, especially among the general public, and the current task is to decide what it means to develop the community in a sustainable way.

Responses to Indicators: Eleven of the administrators said that suggested indicators under the section "Immediate and long-term integration" are good. It was said to be rare for municipalities to implement all of the mentioned points, but that it is overall a good category. It was said that there are some important points, that "they are all questions that councils should be asking as they undertake various projects" (Interview, 9b). And although some of the points are not relevant at the moment, they are becoming more relevant with time. However, when it comes to this section, one of the administrators also said that he did not perceive it as a part of sustainability.

Three of the communities said they do some activities in the area of service delivery, either studies on the cost of new services or on sharing facilities (n=5). Waste reduction is a popular category, with seven of the communities claiming to have a recycling facility in their community or a common centre in a community nearby. Five of the communities are engaged in reducing water consumption in their communities, by introducing policies (one said that those policies are about using water-efficient appliances in new construction). Just four communities reported being engaged in energy conservation, mostly through installing energy-efficient lamps and appliances in their own facilities, and through encouraging people to conserve; however, two of administrations said that energy conservation is beyond the scope of what small towns are involved in. Two of the communities are said to have community gardens and one town has a farmers' market. Four of the towns have walking and biking lanes, as well as trails.

Some of the reasons for not measuring and fulfilling those indicators were mostly lack of financial and human capacity (n=5). Also, switching to more sustainable way of managing things often involves additional cost (for example sending waste to land-fill vs. recycling). Additional issues mentioned during the interviews include a lack of knowledge about sustainable practices (n=1); issues beyond the scope of municipalities (n=1); no access to the information (n=1); lack of people who would make it happen (n=1); and not a concern at the moment (n=2). Another important reason for overlooking indicators is paradoxically because municipalities want their communities to be developed: they do not want to place any additional restrictions that would prevent development from happening:

> Well the rest of them, like energy efficient codes and so on, normally there could be an additional cost with dealing with those developments, municipalities could be hesitant putting regulations into these development (pass) because they want to be pro-development (Interview, 12b).

Table 5.6 Responses on "immediate and long-term integration"

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Built Environment	●●●●●●●●●●●(11)		●(1)	●●●●●●●●●(9)
Building Codes		●●●●(4)		
Brownfields	●●●(3)		●(1)	
Land use	●(1)		●(1)	
Delivery of Services	●●●●●●●●●●●●●(13)		●●●●(4)	●●●●●●●●●(9)
Sharing facilities	●●●●●(5)			
Urban Planning	●●●●●●●●●●●●●(13)		●●●●●(5)	●●●●●●●●●(9)
Energy Efficiency	●●●●●●●●●●●●●(13)	●●(2)	●●●●●(5)	●●●●●●●●●(9)
Reduction of Water Consumption	●●●●●●●●●●●●●(13)		●●●●●●(6)	●●●●●●●●●(9)
Waste Reduction	●●●●●●●●●●●●●(13)		●●●●●●●●(8)	●●●●●●●●●(9)
Community Outreach and Education	●●●●●●●●●●●●●(13)		●●●(3)	●●●●●●●●●(9)
Reduction of Atmospheric Pollution	●●●●●●●●●●●●(12)	●(1)	●●(2)	●●●●●●●●●(9)
Food Security	●●●●●●●●●●●●●(13)		●●●●(4)	●●●●●●●●●(9)

5.1.9. Regional Cooperation

This section is not part of Gibson's framework; it was suggested by one of the administrators, during the first round of interviews. Therefore, this section only contains an analysis of indicators (some challenges were also mentioned during the interviews, so that they are included in this section).

Responses to Indicators: All of the municipalities agreed that this aspect of SA is relevant, with six people saying that it is very important. Some of the responses were:

> Yeah, not only it is relevant, from a lot of other courses and things that I have taken, it is the future for municipalities both big and small (Interview, 1b).

> I think it is extremely important this section, I think this is where value of a sustainability staff will come in, this is probably one of the key areas for small towns (Interview, 16b).

> It's an important part for sure, and I see it as the only way to go when it comes to planning (Interview, 15b).

All of the interviewed communities are already involved in a big chunk of the activities for regional cooperation, such as sharing landfills (n=1); fire association, policing, running the municipal airport and recreational facilities (n=1); waste management (n=1); emergency

response agreement (n=1); healthcare and recreational facilities (n=1); sewer camera and mine painter equipment (n=1); and a recycling and land-fill centre (n=1).

The only reason that administrators stated for not fulfilling those points is the reluctance of the surrounding municipalities to cooperate:

> I think this is very important section, trying to implement it is very problematic, we've been trying for years to get some regional cooperation on some things, and it is very difficult to sell the idea to neighbouring municipalities (Interview, 7b).

The reluctance may appear because of fear of additional spending (n=1); people's egos and old history (n=1); a desire to do things their own way and a reluctance to release control over some aspects of community life (n=1); and having an old mindset (n=1).

There were two suggestions for this section: to include a list of services that municipalities can possibly share on a regional basis and to include a point that municipalities have an official agreement in place that outlines all the details of the cooperation, rather than just a verbal agreement.

Table 5.7 Responses on "regional cooperation"

Theme	Relevant	Not Relevant	Measured/ Implemented	Should be Included
Sharing of Services, Infrastructure and Equipment	●●●●●●●●●●●●(13)		●●●●●●●●●●●●(13)	●●●●●●●●●(9)
Regional Meetings and Cooperation	●●●●●●●●●●●●(13)		●●●●(4)	●●●●●●●●●(9)

5.2 Synthesis

5.2.1. Socio-Ecological System Integrity

Environmental management is still not a part of everyday planning in rural communities. One of the interviewed administrators replied to the question whether "socio-ecological system integrity" should be included in the checklist, by saying:

> I don't think it would hurt, I don't whether it would be...I think land and water for sure anyways would be definitely a key sustainability. I don't know about this other staff, and it doesn't affect us out here, it doesn't affect us at all, but I don't think it would hurt (Interview, 5b).

Protecting natural environment is not one of the major focuses in small towns. More than that, except for the protection of fresh water sources and managing landfills and wastewater disposal

so as not to contaminate surrounding water bodies, small municipalities are not involved in any other aspects connected to the environment. For example, one respondent said:

> Definitely the water part, because that's very important for sustainability for sure. The other parts as I said, the air quality - being a small town that is usually is not an issue. Overall, you definitely want to know what your water and your land, so the animal staff I think is more provincial area of a concern (Interview, 16b).

This fact can perhaps partially be explained by the pristine environment in the country and the province; for example, one of the responses is "Environmental issues haven't been something that we have been dealing with here" (Interview, 11a). Also, environmental issues are also not perceived as part of the municipal responsibilities, "...maintaining healthy environment, sometimes it's just… at the municipal level no we don't [deal with that]" (Interview, 13a). Pini et al. (2007) names 4 barriers that prevent local governments in Australia from getting involved in environmental management: (1) capacity (lack of financial and human resources, also expertise); (2) commitment to other perceptively more important aspects; (3) poor co-ordination between different levels of government; and (4) lack of support from a community. Kenny and Meadowcroft (1999: 4) state "Environmental problems are always of a social character, cutting across the geographical and legal demarcations which frame the social and economic relationships between individuals, organizations and states." It seems that small communities face similar problems across different countries and continents, when it comes to engaging in environmental management. And nobody as yet has suggested a solution.

Additional regulations of environmental protection place additional pressure on small towns that administrators find hard to handle. It was mentioned on multiple occasions during the interviews that one of the challenges connected to environmental protection is to comply with all the regulations that are imposed by the provincial and federal governments. For example:

> Sometimes it's by-law enforcement, those are challenges, you know everybody maintains by-laws with respect to nuisances and that and sometimes those become a challenge because we don't have the resources to actually enforce them (Interview, 13a).

Additional regulations such as improving infrastructure, optimizing facilities and modifying current practices require extra financing and human resources. In their study about environmental sustainability in rural Australia, Pini et al. (2007) also stated that additional responsibilities and regulations inflicted on rural governments are challenging, since they have limited capabilities in collecting tax revenues. River (2005: 48) also concluded that the existing

information “about the environmental capacity of poor, sparsely populated and geographically extensive local governments” is insufficient (which is probably quite similar in Canada). Therefore, it can happen that higher level governments impose responsibilities onto small towns that exhaust their already-limited resources. Although it is important to improve environmental protection regulations in communities of any size, it is also important to keep in mind that smaller communities have limited capacities and that policymakers have to cooperate with the communities themselves in order to create solutions that are within the capacity of small towns to fulfill (Hodge, 2003).

5.2.2. Livelihood Sufficiency and Opportunity

It is clear that small towns are struggling with managing their economies to provide stable and lasting favourable economic conditions. Saskatchewan’s economy had a drastic change in the past ten years, “from a have not province to a have province” (Keatings et al., 2012: 1), which also includes the rural areas. The Conference Board of Canada (2011) predicts that the province of Saskatchewan will have the second highest growth level among Canadian provinces for years to come. However, the provincial economy is largely based on resource industries: 95% of produced goods in Saskatchewan are basic resources, which are mostly grown, excavated and developed in rural areas (Phillips, 2007). Even the provincial budget is extensively based on revenues from the extraction of non-renewable resources. These revenues constituted 28 percent of total revenue in year 2012 (which is even higher than the neighbouring Alberta with 25 percent) (Krawetz, 2012). Ahrend (2006: 5) says that economists have come to understand the risks of this type of economy and call it a “curse” and “precious bane,” rather than a “blessing.” He lists such challenges that may arise as “increased vulnerability to external shocks, the risk of Dutch disease, and the institutional pathologies.” Also, the natural resource sector does not provide as much growth as more technologically-developed sectors. However, Ahrend (2006) says that the challenges are possible to overcome with the right policies and economic frameworks. Although rural Saskatchewan has been experiencing economic development in the recent years, it is important to remember that relying on resource industries is not a permanent solution. Though it will provide a necessary economic boost for the near future, it is important to understand how to use that boost to create a lasting, positive economic environment in the province.

Small towns witness extensive economic development in rural areas, which brings a lot of new residents to the area; however, a lack of housing prevents rural communities from accommodating the residents and subsequently, growth. For many decades, rural communities in Saskatchewan were witnessing only decline in the population; however, a dramatic shift has occurred in the provincial economy in the last few years that has brought an increase in population (Government of Saskatchewan, 2013). This increase created a unique situation in which new housing became in high demand (Saskatchewan Ministry of Social Services, 2011); the Conference Board of Canada (2012) states that demand for the housing in the province will continue to increase. Unfortunately, it seems that the supply has not yet caught up with the demand. One of the administrators listed the following reasons for this: higher taxes, remote locations, bad roads, etc. A couple of administrators said that they are helpless when it comes to initiating new development in their towns. The current lack of housing is blocking economic development in the region (it was said in the interviews that "Right now, there are jobs but we need people for these jobs and there is no place to stay for them moving here" [Interview, 6a]). The provincial government is aware of this issue and is taking measures to address the problem: in 2011, the Saskatchewan Ministry of Social Services developed a strategy that is designed to improve accessibility and affordability of housing; to support families in acquiring houses; to improve strategic planning for housing and to increase awareness of a current housing conditions (Saskatchewan Ministry of Social Services, 2011). As new strategies are getting developed for addressing the shortage, alternative routes also can be taken to provide more sustainable and affordable housing to best provide a variety of choices.

5.2.3. Intra-Generational Equity

Social aspects are perceived to be outside of municipal responsibilities. More than that, some administrators believe that social issues are not a part of sustainability. Greed (2001) defines *social town planning* as "any movement to introduce policies that take into account more fully the needs of the diversity of human beings who live in our towns and cities, (which many would argue mainstream town planning has failed to do)." Modern planning mostly focuses on only the physical aspects of communities. Such areas as gender and racial equality are viewed as being far beyond the responsibilities of local municipalities, although they are important factors in SD. The responses received during the interviews were: "we [administration] don't feel it's

["intra-generational equity" aspects] relevant to the municipality, it might be relevant to employers but not necessarily to municipality" (Interview, 10b) and "I don't think small municipalities would have the resources to address or that problem would be such a size that would require addressing" (Interview, 12b). Douglas (2010: preface) describes planning this way: "The planning profession narrowly defined, continues its tentative maturation, breaching the confines of physical perspectives and the artificial boundaries of legislation and regulation." Greed (2001) states that the current planning system is not able to address the interests of minority and community groups; more than that, Reade (1987) is convinced that 'planning' tends to benefit the middle class people rather than the less-privileged. Rydin (2011: 20) states that there is a need to rethink a current planning model so that the planner is in "the midst of a web of contacts, who are all working together to produce the plan," since the current planning system is unable "to fulfill its goals on its own because the planning sector (and specifically the planning authority) has only limited power, capacities and resources." So even though municipalities can do their best to introduce sustainable practices in their areas of control, that will not mean that the community itself will become sustainable.

The accessibility of affordable housing is becoming a growing issue, as workers in the resource industries around small towns try to find accommodation for themselves and their families in the neighboring communities. The availability of proper housing is one of the human rights, written in Article 25 of the United Nations' *Universal Declaration of Human Rights* (United Nations, 1948). And yet, according to Rydin (2011: 35), "even in wealthy countries access to affordable and decent housing can be a problem." This problem is especially large in Saskatchewan, since the economic change in the province has brought a "dramatically changed housing environment" (Saskatchewan Ministry of Social Services, 2011: introduction). Research has proven that this problem is particularly evident in small towns, since the resource industries that provide jobs are predominantly located in rural areas. Also, the cost of housing in the province has increased, while the economic class of people that seek housing in small towns cannot afford it. For example, according to one of the administrators:

> My number one thing [problem] there would be the affordable cost of housing and rental rates. We have seen a spike in those in the last 2 years and really because of the expansion of the industry right here; and for the average worker if you need a new employee come in and pay average wages it is very difficult to find affordable housing for the average type person (Interview, 11a).

If small towns do not address the issue with housing, it directly will affect their ability to take advantage of some of the economic development benefits in the province. For example, one respondent comments that “Right now, there are jobs but we need people for these jobs and there is no place to stay for them moving here” (Interview, 6a). As was mentioned in the previous sub-section, the provincial government has been working on strategies that would ensure that the province satisfies housing needs for all residents (Saskatchewan Ministry of Social Services, 2011).However, at this moment, the crisis is still evident.

Administrators did not report any gender discrimination in their communities; however, studies reveal that within rural communities, a lack of equal employment opportunities between men and women still remains a problem. It was reported by one small town administrator that “there wouldn't necessary be a gender inequality or racial inequality issue because in the economic atmosphere we have right now, our employers take everybody and anybody” (Interview, 10b). A study conducted by Little (2001) in the 1990s has shown very similar results, in which the author says that gender issues were perceived to be “essentially urban issues and that initiatives were to address urban problems that were not as important (or simply not applicable) to rural areas” (Little, 2001: 52). However, available positions for women are often limited. For example, a bulletin released by Statistics Canada, *The Gender Balance of Employment in Rural and Small Town Canada* (Curto & Rothwell, 2003), clearly states that “Rural females were less active in the labour market compared to rural males and compared to urban females”; that “Rural females had lower employment rates and if employed, a lower share of rural females worked full-time”; and that “Economic and business conditions were one of the major reasons why rural females undertook part-time work—this was not the case for rural males who worked part-time” (Curto & Rothwell, 2003: Highlights). The author states therefore that “gender is still a differentiating factor with regard to employment in Canada” and more so in rural areas (Curto & Rothwell, 2003: 12). Research conducted by Little & Austin (1996) (in Great Britain) showed that women in rural areas have fragmented and disrupted employment histories (mainly due to childbirth, childrearing and lack of job opportunities), with little opportunity for improvement. A lack of available childcare in rural areas creates another disruption in rural women’s employments. Albanese and Farr (2012: 92) state that social policies in Canada consider childbirth to be a personal lifestyle choice, so that parents are expected to bear the consequences. Better employment opportunities for women in rural areas is an important

factor in ensuring that small communities meet the needs of all genders; providing proper childcare is a crucial step in that direction.

Administrators mentioned that the cultural fabric of their communities has been changing, as new immigrants are settling in their towns, which leads to the challenges of providing accommodation and settlement services for them. Administrators did not report any problems in the area of racial discrimination; however, it is also known that most immigrants prefer to settle in cities, rather than in smaller communities (Beshiri & He, 2009). Immigrants help to increase Canada's population: between the years 2011 and 2012, 67% of the national population growth was due to immigrants (Statistics Canada, 2012b). However, in 2006, only 5.3% (312,555 individuals) of Canada's rural population were immigrants (Beshiri & He, 2009). Beshiri and He (2009: 4) say that "Many rural communities are looking to immigration as a means to stimulate social institutions and economic development and curb population loss." Donato *et al.* (2007), in his research about immigrants' assimilation within the rural US, noted that new immigrants can become frustrated when they experience a lack of community and services to assist them. Such a problem is not limited to rural centres, but can be more acute there, because of the limited financial resources that are available there to spend on settlement services and because rural populations are less accustomed to cross-cultural environments. However, on the plus side, Mitura and Bollman (2004) point out that because the sense of community is often stronger in rural centres, it may be easier for new immigrants to assimilate within rural societies, rather than within urban centres. Attracting immigrants to small towns may be one of the strategies that local municipalities want to employ: creating favourable conditions for newcomers could ensure the sustainment or growth of population, in the future. .

5.2.4. Viability for Future Generations

Replacing infrastructure in small towns is said to be the main challenge in preserving rural communities for future generations, when current infrastructure begins to deteriorate. Small municipalities fear the time when small communities absolutely must deal with replacing their infrastructure. These are some of the comments on this issue: "...with the way the cost of infrastructure is going...without some help from the province, it is going to be very hard to maintain the community" (Interview, 16a) and "The main challenge is that our infrastructure is aging and cost of replacement is beyond our financial capacity" (Interview, 4a). At the time

when much of the current infrastructure was installed, the provincial and federal governments were more involved in financing it: Siddiqui and Mirza (1998) say that in Canada, governmental funding for infrastructure maintenance and replacement has decreased over the past three decades, while the cost of maintenance and replacement have been constantly increasing. Currently, the Saskatchewan government provides subsidies to assist municipalities in replacing infrastructure; however that work is still largely the towns' responsibility, and many administrations say that they will not be able to do it without some governmental support.

Although the solution to close the current gap between the required and available investments for rural infrastructure is not clear, now is the time to strategize how to address this problem in order to avoid facing the same situation in another 50-60 years when infrastructure has to be replaced again. Giddings and Underwood (2007: 397) say that "...it is clear that remote communities require new methods of energy supply that are reliable, sustainable and afford a maximum degree of user-independence." For example, instead of investing in new coal power plants in Saskatchewan, the government could invest in local renewable energy sources that would not require extensive power lines across the province. Current situation provides an opportunity to strategize and provide some alternative solutions that would alleviate the same problems for small towns, in the future.

Small towns may not be able to keep providing and maintaining a full range of utility services and recreational facilities in the future, especially since the cost of maintaining those services is constantly growing. There are multiple reasons that small towns struggle to provide a full range of services: first is the current Western lifestyle, whereby people expect more and more services while paying the same amount of taxes (Siddiqui & Mirza, 1998). The second reason is that the cost of maintaining services is constantly growing (Siddiqui & Mirza, 1998). More than that, additional regulations (like decreasing environmental pollution or better resource management) require municipalities to switch or upgrade facilities that may cost more to maintain. For example,

> I sit on Urban Association Executive and I sit on couple of SUMA boards so I hear these things a little bit more…especially from the smaller communities, the villages, they are the ones that are struggling more with regulations just because it costs…everything to reduce your footprint is going to cost money somehow (Interview, 1a).

Also, it is hard to estimate the long-term commitment to the maintenance cost and future cost of facilities:

> We can build the facilities and the infrastructure, but being able to understand the long-term commitment you are making when you build something…to maintaining and upgrading and improving and then eventually replacing…the understanding of that is one of the biggest challenges we have because councils change and when they change, sometimes priorities change (Interview, 10a).

Many administrators admit that most small towns will probably not be able to continue providing all of their services on their own and that is why regional cooperation becomes such an important concept in rural areas. Regional cooperation ensures that rural centres continue to provide all the required services in the future, and thus ensure that communities remain viable for the people who live there.

Because the younger generation is leaving small towns and relocating to larger centres, the growth and proliferation of small towns are endangered. Young people usually leave small towns for bigger cities, whether to seek educational or job opportunities or just to look for a different style of living. During the interviews, one respondent said that "Young people tend to not look for opportunities here but rather graduate from school and start looking somewhere else immediately, the sort of idea that they have to move away to make their way in the world" (Interview, 9a). However, the recent development of resource industries in Saskatchewan creates a number of jobs for people in rural areas. So, while it may be true that local, young populations are leaving, it is also true that these communities receive a large influx of people who are looking for work. Census Canada states that the population of Saskatchewan's towns has increased by 8.0 per cent in the years from 2006 to 2011 (from 139,981 to 151, 205) (Statistics Canada, 2012a), which is the first positive growth recorded since 1961 (Statistics Canada, 2011). Almost 80 per cent of Saskatchewan's towns increased in population, which was not expected, considering the constant population decline in the past decades (Government of Saskatchewan, 2013). Therefore, although the problem with youth moving to bigger centres for educational and professional opportunities still remains, a new influx of workers moving for job opportunities may replace the lost youth, thereby changing the social and cultural fabric of rural centres.

5.2.5. Resource Maintenance and Efficiency

Scarcity of fresh water is the main concern of many southern towns in Saskatchewan. The problem is intensified by the heavy usage of water by resource sectors. The province of Saskatchewan is prone to droughts, so water is scarce during the summer months, in many

regions. Moreover, heavy usage of water by the agricultural industry and now the mining industries contributes to that scarcity. One respondent described the situation as follows:

> We have a finite water resource, our water comes from wells and underground springs, and it's sufficient to support a population of perhaps 5,000 people. That's one of our limiting sectors in terms of our natural resources, so we have to be very careful about how we expand, or what kind of industry we might pursue in terms of economic development, we might not be able to even consider an industry that is really a heavy user of water, we simply don't have that (Interview, 9a).

In the report prepared by National Roundtable on the Environment and the Economy (2010: 14), water consumption in Canada was described in the following way:

> Access to clean, sustainable supplies of water is essential for the operation and growth of Canada's major resource sectors – energy, mining, forestry, and agriculture. The health of our ecosystems is also dependent upon those same clean, sustainable water supplies, creating the potential for competing uses.

This situation is currently very evident in rural Saskatchewan: the provincial economy heavily relies on extracting natural resources; however, many parts of the province have scarce water supplies by which to do that. Some of the small towns are facing a situation where the manufacturing or resource industries cannot invest in their towns or surrounding areas, because those industries would require heavy water usage and usage is already at the limit. Thus, it is important to monitor and reduce as much as possible current water intake by the communities themselves, as well as by the surrounding industries. This may not bring a solution to the current problem with industries, but will allow small communities to grow in size in the future.

It is evident that the general population has not become used to being restricted when consuming resources and thus voluntarily limiting resource consumption is unlikely to have a significant effect. When administrators were asked about the consumption patterns in the communities (electricity, water, and other material resources), they said that the municipality itself can only control consumption in its own facilities, and that personal consumption is not their responsibility. For example, one replied:

> ...we can do our own facilities. But what impact would we have other than encouraging people to conserve energy? We couldn't claim any enforceable laws that would say you could only have so many kW of power, that wouldn't work, it just wouldn't happen (Interview, 15b).

However, residents themselves cumulatively dictate consumption patterns and thus regulating personal consumption rates is important to manage resources. Redclift (1999: 70) supports this claim, by stating:

> Many environmental changes are represented as 'demand-driven' in the hands of consumers, rather than 'supply-driven', in the hands of the formal economic levers dictating production. In fact, it is almost impossible to separate patterns of consumption, and 'lifestyles', from economic instruments and ideologies.

However, Wokaun (2003) states that unfortunately, currently consumers' choices in most cases are driven by price rather than environmental considerations; therefore, it is essential to find a way to engage the public in sustainability planning. Public consumers are the ones who dictate which products will be developed and available on the market. Redclift (1999: 69) states that "arriving at 'rational' grounds for environmental action has proved difficult in practice, and involves important policy choices", that voluntary actions are not enough and that there is a need for standards that would penalize unsustainable actions and set sustainability as the goal of everyday choices. It was mentioned during the interviews that local residents were accustomed to receiving many services for a relatively cheap price, so that they consumed those resources with ease: the simple application of additional charges on consumption over a particular, defined limit, would provide a considerable stimulus to decrease usage.

5.2.6. Community Engagement

Small communities lack participation from citizens in decision-making processes, unless the development or situation is opposed by many residents. Small town administrators explained this phenomenon by stating that apathy was the main cause. Rydin (2011) says that in the majority of the cases it is challenging to get communities' involvement, unless an initiative causes extensive opposition from the public. Unfortunately, opposition from the public is the most unfavorable type of community involvement: "From the planner's perspective, it is the least welcomed sides of public participation that are most frequently offered" (Rydin, 2011: 124). Gough et al. (2003: 61) say that public participation "is without doubt the least established aspect of impact assessment and is often treated with skepticism by certain users and practitioners." Two main factors contribute to the practice of making decisions without public involvement: (1) citizens do not consider it important to get involved in the planning process; and (2) planners are often skeptical about public participation. Gibson et al. (2005) argue that it is important to build collective responsibility by increasing individual awareness, which will subsequently inform evolved planning processes in which sustainability is an integrated concept. However, at the

moment, the importance of public involvement in the decision process is often overlooked, unappreciated and thus in need of timely attention.

5.2.7. Precaution and Adaptation

Most of the communities in the study have action plans in case of unexpected natural disasters; however, there are no strategies in place for adapting to or preventing climate change. Adaptation to climate change is not seen to be an issue since it does not concern small towns residents, in Saskatchewan. Some of the responses received from the interviewees were: "...the climate change...I don't see the value in the climate change, that's just us personally, it certainly could be very important for some other communities" (Interview, 8b) and "We don't really involve our council in climate change at all" (Interview, 2b). Simply put, most of the administrators did not seem to believe that climate change is happening or that it will have a major impact on their community. While some practitioners still doubt the seriousness of climate change, researchers are developing strategies to address it (Preston, et al., 2013; Pielke, et al., 2007). Some researchers see adaptation to climate change as the main challenge of the current era, for example:

> The phenomenon of climate change may well turn out to be the single most important process and phenomenon to impinge on rural communities throughout the world in the 21st century (Bryant, 2010: 143).

Even within the province itself there is a centre specifically designed to research possible adaptation strategies to climate change in the Prairie Provinces. The Prairie Adaptation Research Collaborative (PARC) (www.parc.ca) was established at the University of Regina in 2000 and funded by three provincial governments of Saskatchewan, Alberta and Manitoba.[21] In addition, in 2009, the Government of Saskatchewan introduced Bill No.95 which details both climate change adaptation and greenhouse gas emission reduction strategies (Government of Saskatchewan, 2009). While communities themselves do not seem to be aware of the seriousness of the upcoming climatic changes, the scientific community is bracing to face it, and it is important to transfer that awareness to local governments.

[21] PARC also has released a self-assessment tool (PARC, n.d.) to help individual farmers, businesses and communities to adapt to climate change.

5.2.8. Immediate and Long-Term Integration

Lack of vision (and thus frequent changes in the direction of development) is one of the reasons behind the public's lack of commitment to and impermanence in the implementation of sustainability practices. Since the focus of the future community development depends on a town's council, every four years there is a potential for change. For example, "... councils change and when they change sometimes priorities change" (Interview, 10a). In this case, administrators have little influence on the future course of the development. For example, one administrator comments:

> You know as administrators we are sometimes challenged by the town councils that are elected that we work for. We are here only to provide advice; we can't require councils to act on that advice. There are times when councils have no choice, when there are legislations requiring them to take actions in planning. But we are always there to provide advice and review the act and review what can and can't be done within the community and what should and should not be done within the community and provide those recommendations through councils (Interview, 13a).

Agenda 21 (UNCED, 1992) speaks about the importance of setting priorities on the global and local level that would guide development in the right direction. Keskitalo and Liljenfeldt (2012) reported that integration of sustainability in Swedish municipalities results in forming sustainability priorities in municipalities, since the concept itself is still vague. Unless sustainability becomes one of the priorities for municipalities, other concerns will dictate directions for future planning, which are very often motivated by short-term economical gains, rather than concern for a lasting, sustainable future.

5.2.9. Regional Cooperation

Regional cooperation is essential for small towns to survive. Regional cooperation was not only supported by all administrators, but was also said to be a crucial part of building more sustainable futures and of the survival of communities. The unique aspect about Saskatchewan that makes it especially suitable for regional cooperation is that it "has the second-highest number of municipalities and quasi-municipalities and the lowest population per municipality ratio (approximately 1,209 per municipality) in Canada" (Garcea & Gilchrist, 2009: 347). Reimer & Bollman (2010) also say that rural and small town municipalities often do not have the capacity to pursue development initiatives on their own, thus collaboration would be a smart way to go. However, Garcea and Gilchrist (2009) state that municipal structure in Saskatchewan is very static -- (i.e.) the municipal structure has not been changed from the original one that started

to evolve in the late 19th century. This is especially true when it relates to establishing regional cooperation, which was determined to be an important element by multiple parties. Because regional cooperation is becoming one of the most common strategies to ensure that small towns survive, rural communities started to create district planning commissions on their own (an example would be *WaterWolf Planning District* [22]). This turn of events means that looking at a community as a separate unit may not be viable in the future. Thus, when tools for evaluating the sustainability of a community are concerned, a shift may need to be made, from tools that concentrate on the sustainability of one municipality to the sustainability of a region.

This chapter concludes the results and discussion of the current thesis and is followed by a conclusion that will summarize the thesis. The concluding chapter will cover such points as the initial research gap, objectives and purpose of the study and how they were addressed through the course of this research. Also, possible areas for improvement in the current practice of SA and in small town sustainability planning will be foregrounded, in order to facilitate the advancement and strengthening of these fields.

[22] *The WaterWolf Planning District* is a district planning commission in Saskatchewan that contains 33 rural and urban municipalities and one first nation municipality; the sharing includes: "community planning, resource management, capacity building, sharing of services (water, sewer, emergency planning, by law enforcement Officers, Building inspectors and bylaw creation)" (WaterWolf District Planning Commission, 2012: web page).

CHAPTER 6

CONCLUSION AND RECOMMENDATIONS

This study investigated how well SA is integrated into community planning, specifically in case of small town planning. Application of SA within community planning is one promising approach that could provide assistance in helping to analyze current conditions in communities and to facilitate making more sustainability-oriented decisions. The research has specifically investigated the Saskatchewan *Sustainability Checklist for Municipalities* (the *Checklist*), as a local example of an SA tool. The *Checklist* was developed by a provincial government for the communities in Saskatchewan to determine the health of municipalities (Saskatchewan Ministry of Municipal affairs, 2009). The purpose of this research was set to investigate how well the existing tool responds to the established SA criteria, and to propose recommendations in case of insufficiencies. It is important to understand how well practical application of SA reflects a theoretical base, since many SA-like tools are released that fail to consider sustainability criteria, thus omitting certain crucial parts and misrepresenting the purpose of SA tools. Also, since small communities are often neglected in sustainable community development research, identifying areas for improvement for the *Checklist* are intended to make it more suitable for application within small towns. This chapter presents conclusions that can be drawn with respect to the study objectives, and provides recommendations to improve SA practice in small towns. The chapter also outlines possibilities for future research.

6.1 The *Checklist* missed the target of sustainability

6.1.1. Objective I - Unique aspects and challenges of SD in small towns

Although sustainability is a fairly new concept, especially in small towns of Saskatchewan, research has shown that local administrators are willing to shift to different techniques and procedures that would lead to more sustainable outcomes. However, currently small town administrations are minimally involved in sustainability planning. At the time of the research, the *Checklist* had been released two years prior, yet hardly any of the interviewed administrators applied it to their practice. Reasons varied from lack of time, staff, support from

councils, no reason, etc. However, the main underlying reason for the lack of SA application appears to be that sustainability is not a priority at the moment; therefore, the funds are designated to other more prominent priorities.

It was also revealed that there are number of challenges and other conditions that prevent small towns from attempting planning for SD. Although the below-listed issues are not limited to small towns, they are very prominent in rural communities and become a roadblock in implementing SD. The most prominent issue is the lack of professionals with necessary knowledge who would implement change; secondly, there is a lack of funds to execute necessary actions; thirdly, there is the lack of a striking reason to start changing things in the first place; and lastly, there is a lack of support from citizens and councils, where small communities are known for their conservative views. Also, one of the important conditions relevant to small towns that greatly affects their possibilities is limited tax revenue: small towns have a lot of responsibilities and only limited funds, so that they must rely on alternative ways of operating. All of the interviewees agreed that regional cooperation is a major factor for the survival of small towns. Therefore, special attention needs to be paid to ensure that such cooperation happens. Unfortunately, the current municipal operational system in the province is fairly rigid, and though the importance of regional cooperation has been discussed before (Garcea & Gilchrist, 2009), no significant actions were taken to increase cooperation.

At the moment, small towns face a lot of challenges and it seems that the transition to sustainability is another challenge that needs to be addressed. Small towns' possibilities are limited: they are largely dependent on external conditions, such as economic conditions in their region, country, world, etc. However, rural Saskatchewan is also now in a unique position, since it is experiencing rapid economic growth for the first time in recent history. Also, rural areas in Canada have a number of advantages, such as cleaner environments, favourable economical conditions, a well-developed system of social justice, etc. The way that sustainability and SD are defined now, they are certainly achievable to some degree in rural Saskatchewan. It is an excellent time to set a plan that would guide current development, and, with a right mindset, that plan could be guided by the principles of sustainability. The main point currently for small towns is to make sustainability one of their priorities and to set up a future plan based on the principles of SD that would be a guiding light for years to come.

6.1.2. Objective II - Evaluate the *Checklist* against established SA and other SA tools

The *Checklist* has proven to not measure up to the most developed concepts of sustainability, and simply addresses a very limited portion of the range of qualities that SA tools should hold. The analysis revealed that according to Gibson's framework (*Criteria for Sustainability Assessment,* one of the most extensive frameworks for SA), the tool is lacking a number of qualities and is insufficient in addressing criteria for SA tools. Ultimately, the *Checklist* only fully addresses one criterion from Gibson's framework, which is "Socio-ecological civility and democratic governance"; and only partially addresses other two other criteria ("livelihood sufficiency and opportunity" and "precaution and adaptation"). The following criteria are completely missing from the checklist:

- "socio-ecological system integrity" responsible for "human-ecological relations";
- "intragenerational equity" responsible for equity between different classes of people;
- "intergenerational equity" responsible for ensuring equal opportunities for future generations;
- "resource maintenance and efficiency" that ensures sustainable use of resources;
- "precaution and adaptation" responsible for a level of resilience and adaptation to unexpected events to ensure longevity;
- and "immediate and long-term integration" responsible for the practical application of sustainability principles.

Ultimately, the *Checklist* is initially designed to evaluate the viability of municipal services rather than the sustainability of a community itself. However it is named the *Sustainability Checklist for Municipalities.*

When compared to other SA tools and monitoring programs, research has revealed that other similar tools lack components that correspond to the Gibson's SA framework it, demonstrating that the majority of the existing SA tools still have a number of deficiencies that need to be addressed. Overall, there was no consistency in how tools addressed SA criteria. Some areas were sufficiently covered in some tools, but at the same time limitedly or not at all covered in others tools. This reality reveals how vague the practical implementation of sustainability still is. Most of the reviewed Canadian self-assessment tools concentrate on areas that are under municipal supervision (administrative and governmental aspects of a municipality), on some economic aspects of a community life, yet completely omit

environmental and social aspects. All of the reviewed tools miss one of the important aspects of a contemporary theory of sustainability: SA should not only mitigate negative aspects of development, but also should ensure that development has a positive effect on a system (Gibson et al., 2005). In general, the reviewed SA tools, including the *Checklist*, were designed to analyze the general situation with a focus on governmental aspect, without overcomplicating the process or going too deep into details.

6.1.3. Objective III – Possible areas of improvement for the *Checklist*

Deficiencies in the *Checklist* were addressed by compiling a list of indicators adopted from 13 different tools (including self-assessment sustainability checklists, community monitoring programs and list of indicators). The indicators were selected specifically to demonstrate SA criteria that presumably were missing from the existing checklist. The study has revealed that SA checklists designed for small communities call for a simple approach that would not require extensive data and expertise by which to carry out, as an assessment. Also, in case of small town sustainability, only some areas were under the direct control of municipalities. For this reason, it is hard for municipalities to analyze sustainability of a community as a whole, since many areas are not under their jurisdiction. Therefore, although some of the areas were identified as being relevant to small towns, administrators often did not know what they would do with that information or how it could be integrated into their planning process. The *Checklist* was also said to be too generic, since it is designed to apply to municipalities of different sizes. In addition to limited SA tools, there is also a limited interest in their application. The following areas of improvement were identified in the *Checklist* that, if applied, have a potential to modify this tool into one that more fully represents SA guidelines.

1. Be specifically designed for application within either small towns or big centres. Current SA tools, whether they are tools created by researchers or professionals, rarely concentrate on small towns per se. The existing tools are often created for communities of all sizes and therefore, as a rule, are generic. More narrowly oriented are the monitoring programs aimed at appraising progress of a specific community or a region. Most of the time, small towns often do not have the capacity to create a monitoring program specifically for their personal use; therefore, small towns have to rely on the tools that are available at their disposal (specifically, the ones provided to them by higher governmental bodies). Moreover, sustainability tools in

small communities actually have a larger role to play rather than in bigger centres, where there are professionals knowledgeable on the topic. Therefore, it is important to provide rural communities with effective tools -- tools that can specifically address the concerns of small towns and direct change to more sustainable futures.

2. Rather than trying to create a generic tool that would suit all the communities, provide more detailed tools that would include some specific features for different types of communities (for example, information on tourism if it is a tourist centre) and let communities decide which information applies to them. Some of the sections that were presented to administrators as suggestions were said not to apply specifically to their community (for example, forestry, farming, transportation, social issues, etc.). But these areas might be valid for other towns. However, it seems that the *Checklist* is designed to avoid those areas and thus does not address in detail any type of a community. However, when such areas are bracketed off, much is omitted from analysis, therefore providing an incomplete picture. The better solution might be to include extended issues, but also to allow communities to decide whether they apply to them.

3. The indicators should be carefully selected to be sensitive to the concept of a small town. Research has shown that small towns have limited capabilities. Limited financial capabilities restrict the potential to implement SD, since human resources and professionals are lacking. Therefore, tools that are provided to small towns should be sensitive to the limited capacities as smaller communities, while nevertheless still being effective.

4. Provide an option for more detailed analysis. One of the remarks made during the interviews on the *Checklist* is that it was too simple therefore not suitable for more detailed analysis or more complex problems. The *Checklist* was said to be more suitable for an initial analysis to understand the general situation in a community, but not for further in-depth study. Therefore, SA tools that provide a more detailed analysis for small towns would be a good next step.

5. Include a section on self-analysis and directions for change. Although the *Checklist* does include a basic table for analyzing the results, it is not sufficient to provide in-depth understanding of the community's problems. In addition to that, an opportunity to design an action plan on how to address the shortcomings is not present at the moment. Some of the interviewed administrators who completed the *Checklist* admitted that it was not clear what the

next step after its completion would be. Although the *Checklist* provides the contact information for a governmental agency that would help with preparing an action plan, none of the interviewed administrators reported using it. Therefore, providing a possibility to better analyze the results and to secure guidelines for further courses of action could open up more possibilities for positive change.

6. Design a SA tool that would allow for a holistic analysis of the system, rather than just individual fragments. Research has revealed that it is a challenge to perceive a community as a holistic and integrated mechanism, since there are multitude of institutions that are in charge of different aspects of a community. Respondents reported on multiple occasions during the interviews that municipalities would not measure such areas of community life as the environment, health, educational and social services, etc., since the towns are not in charge of those areas. However, one of the core sustainability principles is that the overall well-being of a system (in this case, community) depends on the well-being of an each individual element. Contrary to that statement, the *Checklist* evaluates only the areas that municipalities govern and ignores other aspects of community life. In order to achieve SD in small towns, it could help to have a SA tool that would allow researchers to analyze the overall issues in a community in an integrated manner and not as fragmented parts. Wheeler (2004: 41) says that it is a planner's role to be a mediator between different institutions; therefore, local administrators need to be supplied with tools that enable them to analyze the overall situation in addition to using more narrowly-oriented, existing tools.

7. Be more specific in naming the tool so that it provides a clear idea as to what it is intended to evaluate. Although, the *Checklist* is named *Sustainability Checklist for Municipalities*, it evaluates *viability* of municipal services, rather than *sustainability* of a community.[23] Therefore, this tool can be misleading: it may determine that administrations are viable, while it does not guarantee that communities are sustainable. It is important to specify this shortcoming, so that administrators know that there are additional steps to be taken to ensure the sustainability of a community. This shortcoming can be overcome either by explaining it in the introduction or by changing the *Checklist's* name to accurately reflect its limited scope.

[23] The Oxford dictionary defines "municipality" as a "a town or district that has local government," or as "the governing body of a municipality" (Oxford University Press, 2013).

6.2 Revisiting the Research Gap

Clearly SA is still in the very early days of practice among small towns in Saskatchewan and in municipalities elsewhere. Until now, there have been few documented cases of its implementation in Canada, Great Britain and Australia. However, it is also clear that SA gives better results with an every new implementation (the last SA implementation during a Mackenzie gas gathering and pipeline project in 2004 proved its effectiveness with complex problem solving [Gibson, 2011]). Therefore, SA still has untapped potential within it; but at the same time it lacks consistency in practical and theoretical aspects (Bond et al., 2012). Additionally, every new application of SA is based on a new set of criteria, which shows that SA is still far from being a mature framework (Therivel, 2013; Morrison-Saunders & Pope, 2013; Gibson, 2013). Additional research in the area of SA is especially important at the moment, since the wide popularity of SA-like tools among organizations and communities proves that there is a high demand for such frameworks. However, currently this interest is not supported by academic research: practitioners demand results in a proliferation of tools that do not reflect scientifically established criteria. Research in SA needs to progress to meet demand in the field: it is important to address SA development now, while the interest is still strong.

Current applications of SA among practitioners is limited to simple checklists that often do not satisfy all of the sustainability criteria or follow SA principles. More research is needed on how to establish SA tools that can be developed and applied by practitioners without compromising SA criteria. The existing SA tools (including the *Checklist*) still follow the initial idea of sustainability, which was based on the concept of economic development that does not harm the natural environment. Also, SA tools are tailored to fit into the current administrative and governmental system, meaning that those issues that fall outside administrative jurisdiction are not being included in the tools. Additionally, in theory, SA tools are intended to bring positive enhancements rather than to merely mitigate negative aspects and optimize current conditions (Gibson et al., 2005). However, the latter are what is happening in the case of existing SA tools. It is important to address these issues in a timely manner, while interest in SA does not deteriorate into disappointment and subsequent disinterest in these frameworks.

In Canada, the practical application of SA, as a part of an established EIA-like process, is limited to industrial-type projects and big scale developments (Gibson, 2002). Applying SA on smaller and more local scales, due to limited resources, tends to lack the methodology and thoroughness of SA on larger scale applications. Future research can concentrate on how to transfer all the established methodology and principles developed for SA onto larger scale into community-based assessments, without unnecessarily complicating the process. However, significant work needs to be done before SA tools can reach the state of being straightforward and applicable, but at the same time, effective. Applying SA to small communities provides an optimal opportunity to develop more sophisticated SA tools for a number of reasons: (1) small communities provide a positive setting for integrated assessment, since different aspects of a community life can be observed more easily on a smaller scale; (2) small towns lack professionals in the area of SD; therefore, the effectiveness of the tool is not affected by personal judgement and knowledge; and (3) SA tools support SD development in smaller communities, which are often overlooked in academic circles (Townshend, et al., 2010; Winchell & Koster, 2010).

There is a great need to refine existing SA tools and make sure that they represent scientifically established criteria for SA. The reviewed SA tools lacked many aspects that SA tools should have, because practical application of SA does not reflect the wide scope of theoretical criteria. Application of such tools may be more harmful rather than helpful: if users get positive results, they may not be motivated to strive for more, although the community may yet be far from sustainable. Because sustainability still remains a vague concept (Bell & Morse, 2008), it creates a lot of misunderstanding among practitioners as to which guidelines should be followed and how practical application of SA can be manifested. In many cases, when local authorities or organizations implement sustainability and not the scientific community, it can build the wrong foundation for future implementation. It is crucial to clarify what the concept of SA is about.

Research has revealed that established planning systems in small communities have little room for incorporating sustainability. It was clear that administrators are not sure how to use data acquired through the analysis; moreover, some of the conducted studies and plans on SD tend to be shelved and not applied in the long-term. Future research can be conducted on what is the optimal way to implement sustainability practices in the planning process. It is important to

research and note the optimal time of introducing considerations of sustainability into the planning process, the actors involved and any other important aspects that contribute to the results of the planning process. Without a developed system of integration into the planning process, even the most effective SA tools may not have a positive effect.

One of the biggest issues that small communities are facing at the moment is insufficient funds to support the growing cost of municipal services and amenities. Regional cooperation was seen as the most optimal solution to this problem, and thus as very important, by all of the interviewed administrators. However, the existing SA tools do not reflect that: only a few had a basic section on regional cooperation, which is insufficient, considering how essential it is to small towns. Future research can be done on developing certain guidelines for designing SA tools for regions, rather than strictly for communities, or to greatly emphasize that broader application, if tools are community based. Perhaps, SEA, which belongs to the same family of impact assessment tools, can be incorporated, as it is intended for use on larger scale regional development.

6.3 Contributions and Limitations

This research has revealed the current progress of SA tools and highlighted their deficiencies, compared to theoretically established criteria. In addition, extensive data was collected on the current state of SD within rural communities and how well SA is integrated into the planning process. It was revealed during the study that although SA tools became a popular method for assessing SD (judging by the number of released tools), there is potential for a future improvement; additional efforts need to be invested in order to meet the necessary standards set by researchers. Throughout the course of the study, it was revealed that SD within smaller communities is still far from being attained and that there are numerous difficulties standing in the way before such state can be achieved. However, research has shed some light into the specific problems that, if overcome, may bring SD closer to reality in the small town setting. The research also helped to understand the specifics of planning within small towns, which will help in designing better SA tools and frameworks that are intended to be implemented in those settings.

Although this study has laid a foundation for future research in the area of SA and SD for small towns, it has merely provided a better picture of the existing situation and has not provided answers to resolve the current problems. Sustainability assessment is a young area whose methodologies and theory are still evolving. More than that, extensive work needs to be done to translate all of the established principles into small community planning, thus making them accessible to non-experts, but not losing their methodologies. Although this research has revealed which indicators within SA would be the most applicable to small towns and which existing SA criteria would be relevant, current approaches to SA still lack the level of integration that SA ideally is striving for. Therefore, it is important in the future to translate obtained knowledge into newer and more creative methods and tools. This research has revealed the current progress of practically applying SA within small towns and the problems that are preventing small towns from attaining SD. However, future research needs to further investigate and provide practical solutions to address these issues. The next section will identify areas for such future research and provide recommendations to small town administrators, provincial government and scholars.

6.4 Recommendations

6.4.1. For future research

1. Adopt one definition of sustainability and SD. The concept of sustainability has not yet solidified and that is an important reason why the practical application of SA varies so much: SA is based on principles of sustainability and it is hard to build above an unsteady foundation. However, if the field of SA is to advance, there needs to be established guidelines, even though they would be based on what little is certain in the area of sustainability. Guidelines can evolve, as the concept grows and matures.

2. Similarly, it is important to establish approved guidelines for SA practice. Clearly, existing SA tools and practical application lack consistency; every one of the reviewed tools followed different criteria. Sustainability assessment is quite a new field; thus it creates a lot of room for variation in methodology and practical application, which most often occur against the established standards. However, as much as this situation provides room for mistakes, it is also a perfect opportunity to adjust and improve existing practices through constant analysis

(Pope and Morrison-Saunders, 2013). It is an optimal time to draft guidelines for SA and to improve them, as the theory improves.

3. Practical application of sustainability lags behind the theory. The reviewed checklists for evaluating SD did not reflect the latest theoretical developments. The tools reflected the earlier understanding of sustainability as mitigating a negative effect on the natural and social environment, rather than enhancing positive effects on these areas (Gibson et al., 2005). This shows that practitioners in the area of SD need to be more proactive in implementing changes that would reflect recent developments in the field, rather than to solidify concepts that have already been evaluated as insufficient by researchers.

6.4.2. For small town administrators

1. Making the concept of sustainability part of citizens' daily lives. Research revealed that some administrators do not understand the essential components of sustainability well. Establishing understanding and educating local authorities on the practical aspects of SA application is important for making progress towards SD (even if the concept is still evolving). It is also crucial to share this knowledge with citizens, as they are the decision-makers in democratic society. Educating citizens is especially important in the case of small towns, where new concepts take longer to be accepted.

2. Establishing a vision for a community. It is important to have a vision for a community that sets a direction for future development (Douglas, 2010); this is one of the guiding principles for strategic planning. As long as a community development is not guided by a future vision, everyday issues will always consume most of the time and money. And provided solutions will be more of a "bandage" or fast fix, rather than a "cure."

3. Establishing regional cooperation with neighbouring communities. The interviews have made clear that regional cooperation is one of the strategies that would allow small communities to survive, in the era of globalization. According to the interviewed administrators, the big egos of local authorities were the main obstacle to establishing regional cooperation; among all of the problems that small towns have, this one can be readily resolved. It is a better strategy to start developing strategies for cooperation now, when the condition is still not critical, rather than to wait for a crisis to develop.

6.4.3. For provincial government

1. Legislative requirements for SA completion: Research has revealed that despite sustainability being such a popular concept, many of the smaller communities in Saskatchewan do not see it as a necessity or have means to implement SD in their towns. Legislatively requiring the completion of the *Checklist* or similar tools may popularize the use of these tools in community planning. However, because small towns are reportedly already under a lot of pressure to provide all necessary services to its residents, additional stress may cause more damage than good. (Administrations would have to use limited resources on extra services.) Providing incentives would be another strategy. For example, certain tax reductions for implementing sustainability practices may be used to encourage sustainable practices. Although this approach does not completely eliminate the need to invest funds, it may encourage small towns to think more strategically and proactively, which is important to achieve a sustainable future.

2. Support in collecting, analyzing, and interpreting data: Small towns have a lot of responsibilities and very limited capabilities. Therefore applying tools that base their results on quantitative data is a challenge, since the needed data must first be acquired. Nevertheless, simple checklists are good for tracking whether a community is moving in the right direction. But they are not effective in providing a more comprehensive analysis of a situation. According to Gibson et al. (2005), it is important for SA tools to contain indicators. And yet, for the purpose of accessibility, existing tools are not indicator-based. Not indicator-based tools proved to make sense within a small-town setting: many of the interviewed administrators admitted that they would not know where to look for the required data to complete the indicator-based assessment, or that it might take a lot of time and effort. Therefore, it is important to either develop tools that are designed to incorporate only the available data, or to support small towns in collecting necessary information. Establishing a governmentally sponsored organization that would conduct assessments on behalf of small communities could help administrations to conduct SA and therefore plan for sustainability.

3. Develop a process not a product. Reimer and Bollman (2010) state that one can never find two of the same rural communities, that every community is different. Therefore, it is important to allow room for flexibility in approaching rural development. He advises that instead of a provincial government trying to develop a tool that would suit the multitude of rural

communities, that government can instead develop a process that rural administrations can use to analyze their communities and to design strategies for development. In the case of Saskatchewan and the SA checklist, a list of certain standards could be aimed for: in this way, municipalities themselves can compare the current situation with established standards, in order to understand the state of their communities. Also, the provincial government can develop a framework(s) that would assist communities in developing action plans to address their challenges.

6.5 Final Remarks

Small towns have a great opportunity to incorporate sustainability into their planning and by this benefit their future development as well as the development of SA. Testing SA application within small towns can provide a great opportunity to see SA applied in an integrated manner. As was mentioned in the results chapter, small towns' administrations get involved in many areas of community life that administrations of bigger cities would not. Since one of the major features of sustainability is that it encompasses all of the areas of a community, it is important to be able to take a holistic approach towards sustainability in a community. Thus, small communities have an advantage, in that local administrations actually can get involved and influence more areas than is the case in big cities. Additionally, municipalities in small towns are better informed of each aspect of community life, since it is easier to track the state of things in smaller communities rather than in larger cities. However, there needs to be an understanding on the part of policy developers that oversees the implementation and development of SA tools for small town situations. It is not enough to just oblige communities to commit to certain practices and procedures; there needs to be an awareness of limited capabilities. That awareness does not mean that SD is not possible within those conditions, but rather that alternative approaches need to be taken.

It is important to understand the final aim of SA tools: tools that only monitor the current conditions or those that actually facilitate the transition to SD. It is time to ponder whether the purpose of SA checklists is to reflect the concepts of sustainability and therefore to make positive changes that would make SD possible, or whether SA checklists only slightly optimize current conditions. If the latter is true, completion of a SA checklist will not bring anything except peace of mind; the wrong idea that the community is sustainable. Complacency or denial

is a real possibility in many communities, where councils and administrators do not have in-depth knowledge of sustainability. Research has showed that some administrators do not perceive parts of Gibson's framework as part of sustainability, which shows that officials vary in their knowledge of the concept. Therefore, it is important not to provide misleading ideas, when it comes to creating and applying tools for sustainability. SA and the concept of sustainability is just emerging, and if the wrong idea is planted at this stage, it may have a detrimental effect on future implementation and practice.

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APPENDICES

APPENDIX A1

Sustainability Checklist for Municipalities

A Guide for Elected Officials, Municipal Staff and Community Members

Prepared by
Saskatchewan Ministry of Municipal Affairs

December 2009

What is a healthy municipality?

A community needs many positive human elements to be healthy: elected officials who truly strive to represent all residents, municipal staff that work in a professional team-like manner, and residents who have a sense of pride and ownership. Tied in with these elements, a healthy municipality requires a strong assessment base to generate revenues required to meet the needs of the residents.

You are invited to look at the following five factors that are indicators of a healthy municipality. This self-examination includes a range of questions that need to be answered objectively and critically.

1. Can the municipality's population and economy be sustained and even grow?
2. Can council represent the interests of the community?
3. Can the municipality meet its responsibilities for administration and services, and satisfy legislation?
4. Is the municipality able to provide needed services to residents at a cost they can afford?
5. Can the municipality provide services from the available financial resources?

If your answers to these questions are all "yes", then the municipality is probably healthy and viable. You may still want to consider options to improve your situation.

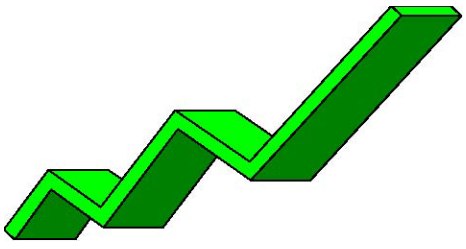
If your answers to these questions are mixed, "yes" and "no", then the health of your municipality may be at risk. Your community's best interest is at stake. Be ready to discuss and evaluate possible options for your community.

KEY INDICATORS OF A HEALTHY MUNICIPALITY

Health Indicator 1: *Can the municipality's population and economy be sustained and even grow?*

Municipalities exist to provide services to communities. What impacts the growth of a community? Employment opportunities, business and farming activity and industrial development often play an important role in the growth of a community. A municipality needs people to support local businesses and needs local business to invest in the community.

Economy and Population	Yes	No
a. Is your total population growing?		
b. Is the percentage of the population over the age of 60 decreasing?		
c. Are young people able to find work in the area?		
d. Is there an increase in building permits being issued and business opening?		
e. Is the municipality's assessment base growing?		



Health Indicator 2: *Can council represent the interests of the community?*

Municipalities exist to serve a community. A shared sense of common purpose and pride is required to keep the municipality going. If there is a lack of interest in the community, it will be difficult to find people to run and maintain the municipal council.

Sense of Community	Yes	No
a. Does the community show a strong sense of pride?		
b. Are there local volunteer organizations that provide services to the community?		
c. Is the number of volunteer organizations growing?		
d. Are there inter-municipal agreements in place for certain services? (e.g. fire-protection, waste management etc.)		
e. Are there bylaws adopted by council supported by the community?		
Local Democracy		
a. Is the council elected (that is, not acclaimed)?		
b. Is voter turnout at municipal elections acceptable?		
c. Are council vacancies infrequent and filled easily?		

Health Indicator 3: *Can the municipality meet its responsibilities for administration and services, and satisfy legislation?*

Managing a municipal government, even a small one, is very demanding. Along with the greater autonomy provided to local governments comes greater responsibilities and accountability for the actions of council and its administration. The operation of a local government is becoming increasingly complex given the needs and expectations of citizens and industry. Negative answers to questions in these areas may mean that the current and future health of the municipality is at risk.

Administrative and Governance Capacity	Yes	No
a. Does the municipality employ a knowledgeable, certified administrative and operational staff? (e.g. certified administrator required if population is 100 or over)		
b. Does the council have an emergency measures committee, designated coordinator, and emergency plan as required?		
c. Does the municiplaity have a building bylaw as required?		
d. Does the municiaplaity have an up to date land-use zoning bylaw?		
e. Does the municiaplaity have an up to date Official Community Plan?		
f. Does municipla staff attend relevant workshops and other trainaing opportunities?		
g. Does the council regurarly update their knowledge of municipal government through particiapation at the SUMA or SARM conferences and other opportunities, such as the Municipal Leadership Development Program workshop?		
h. Does the municipality regurarly meet deadlines for financial, assessment, taxation and administrative cycles?		
i. Does council have clear protocols in place for establishing council meeting procedures?		
j. Does council have a policy manual addressing various municipal issues?		
k. Does staff have adequate space, equipment and technology to do their work?		

Financial Management	Yes	No
a. Does council adopt and follow an annual budget?		
b. Does the administration report regularly to council on the municipality's finances and budget performance?		
c. Does the municipality have a five year projected capital and operating plan		

Health Indicator 4: *Is the municipality able to provide needed services to residents at a cost they can afford?*

Municipal governments provide services to residents and properties. The infrastructure (roads, sidewalks & curbs, water & sewer lines etc.) is an essential asset entrusted to the council and staff. Keeping all infrastructure systems in good working order is an essential responsibility of the municipal government.

Unfortunately, because of short-term pressures, the challenge of keeping infrastructure systems in good condition may be set aside to keep taxes or charges at a lower rate. If services cannot be maintained and reasonably financed, the health of the municipal government may be at risk.

Paying for Services	Yes	No
a. Are the municipality's major public facilities being regularly maintained?		
b. Are financial reserves being set aside for infrastructure replacement?		
c. Can the municiaplaity afford to undertake major capital works when needed?		
d. Are tax collections and utility payments generally kept up to date?		
e. Are taxes comparable or lower than in other municipalities in the area?		
f. Do utility rates cover the costs of providing the service and upgrading and replacing the infrastructure in the future?		

Health Indicator 5: *Can the municipality provide services from the available financial resources?*

Annual taxation and charges for services may not always be adequate to fund capital works needed by a municipality. How the municipality is managing its finances will affect its ability to respond to emergencies or to undertake infrastructure repair, replacement, and upgrading.

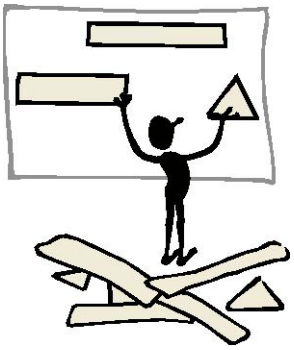
Debt is part of municipal finance. Short-term lines of credit are used to cover month-to-month cash flow needs. Long-term debt may be incurred to pay for major capital works. However, debt does come at the cost of interest charges and the need to make regular loan or debenture payments. If these payments become a dominant part of the municipal budget they limit council's ability to respond to unplanned expenditures and endanger the health of the municipality. Ideally, the municipality should budget for capital replacement in order to help limit debt.

A healthy municipality will have at least one year of tax revenue in reserves.

Dept and Reserves	**Yes**	**No**
a. Is your municipality operating within its regulated dept limits?		
b. Has the trend over recent years been to indicate the reserve funds?		
c. Have surplus money investments been increasing?		
d. Does your municipality seldom use, or only use for a short period, lines of credit to pay for day to day operations?		
e. Are the major industries which provide tax base and employment growing?		

Taxation and Revenues	**Yes**	**No**
a. Have the amounts of tax areas been <u>decreasing</u>?		
b. Has the municipality used tax tools to manage any tax shifts? (ie. base tax, minimum tax, mill rate factors)		
c. Can a decrease in other general revenues be offset without a tax increase?		

We have answered the questions…



Now what do we do?

As noted, there are no absolute measures of a municipality's health. Consistent positive responses probably indicate that the municipality has the political, financial and community resources to continue to operate effectively.

Preparing a written municipal strategic plan could be used, if it is not already, to clarify how the community wants its municipal government to operate in the future.

Consistent negative responses to these questions would suggest that the local government may no longer be effectively meeting the political and servicing needs of its residents. Partnership opportunities may need to be explored along with a look at the present structure.

Most people will find that some of their answers are positive and some negative. The question becomes how do you address your weaknesses and build on strengths?

The table on the following page provides comments on how to reflect on the information obtained from the above questions.

Criteria	Analysis	Opportunities
Indicator 1: ***Growth***	If answers are yes then weakness in other areas may be addressable. If answers are no the community is vulnerable, particularly in the longer term.	Negative growth may be addressed by economic development and strategic planning in some cases. Community partnerships, to tie in with a larger and /or growing community, may be beneficial option.
Indicator 2: ***Democratic Governance***	If answers are yes, this is a positive sign for the future of the community. A municipal government needs a sense of community. If the answer are no, the sense of community is weak and the need for an independent government may be questionable.	Municipal leadership to revitalize interest in the community may be attempted. If public support for the local government is not strong, then consideration of alternative municipal structures may be of interest to the community.
Indicator 3: ***Responsible Municipal Management***	Yes answers indicate the municipality should be able to fulfill its minimum responsibilities. Any no answers indicate a need to focus more municipal, financial and staff resources on operations.	Strategic plans might direct more resources toward operations. If possible, realign staff and resources within the local government to obtain better services. Community partnerships may offer alternatives for efficient service delivery.
Indicator 4: ***Ability to Provide Services at an Acceptable Cost***	Yes answers indicate the municipality is planning to fulfill its service responsibilities. Any no answers indicate a need to devote more resources to sustaining municipal services or there will be future financial and servicing problems.	Strategic plans should focus more resources on services. Look at community partnerships to strengthen and sustain services or contract services (at full cost recovery prices).
Indicator 5: ***Adequate Financial Resources***	Yes answers indicate a basic level of financial management and sustainability. Any no answers are indicators of potential problems or risks. What people are willing to pay for local government and services will vary from community to community.	A few no answers may be addressed through municipal strategic plans. If several no answers are evident, the municipality likely has or will face serious problems with ongoing sustainability. Look at exploring community partnership opportunities.

More information?

The Ministry of Municipal Affairs developed this questionnaire for locally elected officials' and citizens' self-assessment and understanding of the potential health of their municipal government.

Visit the ministry's website at http://www.municipal.gov.sk.ca for more operational resource materials.

Contact Information:

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Strategy and Sector Relations
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Note:

The Ministry of Municipal Affairs wishes to acknowledge that development of this document was based in part on the Alberta Municipal Affairs publication *"Municipal Viability Issues: A scan for potential issues in local government."* Saskatchewan Municipal Affairs extends a sincere thank you to Alberta Municipal Affairs.

APPENDIX A2

Municipal Government Sustainability Self-Assessment Tool

Saskatchewan Ministry of Municipal Affairs

Overview

The Ministry of Municipal Affairs has developed a self-assessment tool for Saskatchewan municipalities focused on indicators of sustainability for municipal government. Municipal government sustainability focuses on eight core areas: Governance, Administration, Finance and Financial Management, Service Delivery, Public Safety, Infrastructure, Demographics and Economic Trends, and Partnerships.

The sustainability of municipalities and their services is a key objective of Municipal Affairs. This self-assessment tool will help meet the government's aim to work with the municipal sector to identify barriers and opportunities to improve municipal government sustainability. The tool supports the Ministry's priority initiative of working with the municipal sector to enhance professional and administrative capacity.

This is a tool for municipalities, with results for use by municipalities. The tool aims to alert local officials to problems before they become unmanageable and help identify areas of concern. Results are not required to be reported to the province or shared with other municipalities, unless so desired.

Instructions

On each of the tabs for the eight core areas, you will find a series of questions for you to answer. You will find three different types of questions: Scenarios, Agreement and Quantitative.

Scenario questions provide you with a general question and then four descriptive scenarios that might describe your municipality or its operations. For these questions, select the scenario that best describes your situation. While none may be an exact representation of what you do or your municipality, select the one that is closest by putting any character in the box directly below the description.

Agreement questions provide you with a statement. You then may indicate where you Strongly Disagree, Disagree, Agree or Strongly Agree with the statement; again, by placing any character in the corresponding box. Many of the questions ask you about two related aspects. For example, Governance "Question 4" states, "Our municipality has a website that meets the needs and interests of our citizens." If you don't have a website, you may choose to Strongly Disagree. If you have a website, but in your opinion, it really doesn't meet the needs and interests of your citizens, you might choose Disagree. If you have a website and it has the content to meet your citizens' needs, but, in your opinion, could use some work to better capture their interests, a response of Agree may be appropriate. A site that, in your opinion, does both, may earn a response of Strongly Agree.

Quantitative questions provide you with the question and then ranges of possible answers. Select the one that best describes your municipality, again, by placing a character in the box provided below the intended response.

As you answer the questions, you will notice movement in your "Sustainability Gauge" for that category. These indicators move as you complete a question and move on. Don't be alarmed if you come to a tab and already see a score attributed to the indicator before you have completed a question. In some cases, the indicator is influenced by questions from other categories.

Note: If you select more than one answer for any question, all the answer boxes will become highlighted in yellow. The scoring will still operate but will use only the farthest left response. If you leave a question blank, the tool assigns a default response of the farthest left option even if a character is not shown.

Administration

Administration Scenarios					
1	Which of the following best describes the existence and completion of staff learning plans in your municipality?	Documented staff learning plans do not exist.	Staff learning plans are in place.	Staff learning plans are in place and are part of the performance review process.	Staff learning plans are in place and up-to-date. Staff use these as an effective means to plan and evaluate training.
2	Which of the following best describes the administration capacity (i.e. skills and staffing levels) in your municipality?	We do not have a good understanding of the skills and staffing levels that we require.	We understand what limitations exist in our skills and staffing levels.	Plans are in place to address limitations in our skills and staffing levels.	Skills and staffing levels are appropriate for our needs.
3	Which of the following best describes your municipality's ability to meet its reporting deadlines?	We are unaware of provincial or council reporting deadlines.	We are chronically late with reporting but we do complete it upon prompting.	We occasionally miss reporting deadlines but submit soon afterward.	We meet all reporting deadlines.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
4	Our municipality has an effective means to plan and track staff learning and development.				
5	We have up-to-date and documented Human Resource policies and processes.				
6	We have succession plans in place for key staff.				
7	We understand the resources needs (i.e. tools, equipment, technology) to administer our organization.				
8	We have the resources (i.e. tools, equipment, technology) to administer our organization.				
9	Our municipality meets the Certified Administrator requirements set forth through legislation.				
10	We are heavily reliant on volunteers to administer the municipality.				

Administration

11	We consistently meet the reporting requirements and deadlines of the province, school division and federal government.				
Quantitative		**Do not have learning plans**	**Between 0% and 25%**	**Between 26% and 75%**	**More than 75%**
12	What percentage of staff learning plans over the past three years have been achieved?				

Finance & Financial Management Scenarios					
1	Which of the following best describes the tie between your municipality's strategic plan and budget?	Our strategic plan and budget are not linked.	Our strategic plan and budget are linked by formal processes.	Environmental scanning occurs on a regular basis and is used to assess risk.	Our strategic plan, budget and forecasts are linked by formal processes.
2	Which of the following best describes the existence of financial processes in your municipality?	We do not have documented financial processes.	Our financial processes are not formally documented but are well understood and applied consistently.	Our financial processes are documented, well understood and applied consistently.	Our financial processes are documented, followed consistently and reviewed regularly to identify areas for improvement.
3	Which of the following best describes your municipality's financial position?	Removal of operating grants would force suspension of municipal operations.	Removal of operating grants would highly impact legislated services that are provided to citizens.	Removal of operating grants would highly impact long standing optional services provided to citizens.	Removal of operating grants would minimally impact existing services provided to citizens.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
4	We adopt an operating and capital budget each year prior to authorizing the tax levy.				
5	We provide monthly financial forecast updates to council.				
6	We have a up-to-date financial risk management plan in place.				
7	Our auditors consistently provide their audit opinion without significant concerns.				
8	All of our routine financial processes are documented.				
9	In the past decade, we have never had an ongoing operating deficit over two or more years.				
10	All of our routine financial processes are automated.				

Finance & Financial Mgmt

Quantitative		More than 50%	Between 25% and 50%	Between 10% and 24%	Less than 10%
11	Over the last three years, what percentage of your operational expenditures have been funded by grants from other orders of government?				

Service Delivery

Service Delivery Scenarios					
1	Which of the following best describes citizen satisfaction with the services delivered by your municipality?	We are unsure of the level of citizen satisfaction with our service delivery.	Moderate level of citizen satisfaction with service delivery exists and is staying constant.	Moderate level of citizen satisfaction with service delivery exists and is improving.	High level of citizen satisfaction with service delivery exists.
2	Which of the following best describes your municipality's compliance with legislated requirements for mandatory and optional services provided?	We are unaware of the legislated requirements regarding the services that our municipality provides.	We are substantially challenged in our efforts to remain compliant with legislation related to our service delivery.	We meet or exceed all legislated requirements related to our service delivery.	We have effective means in place to identify newly legislated service delivery requirements as they are announced and effective means to meet them in a timely fashion.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
3	We have documented, publicly available processes to determine the cost and staffing implications of decisions regarding changes in services.				
4	We have documented operating procedures for all the services that we provide.				
5	We have service delivery plans that are appropriate to the general size and make up of our municipality.				

Public Safety

Public Safety Scenarios					
1	Which of the following best describes your enforcement of municipal bylaws and building codes?	We do not enforce municipal bylaws and building codes.	We communicate our municipal bylaws and building codes to citizens.	Municipal bylaws and building codes are enforced on an ad hoc basis.	Municipal bylaws and building codes enforcement is planned and is based on citizen priority.
2	Which of the following best describes the public's feeling of safety in your municipality?	Citizens do not feel safe living in our municipality.	Citizens have some concerns about the general level of safety in our municipality.	Citizens have some concerns about specific issues of safety in our municipality.	Citizens feel safe in our municipality.
3	Which of the following best describes your municipality's efforts to reduce its risk of emergency incidents?	Risks are not identified.	Risks are identified.	Risks are identified and the likelihood of occurrence is estimated.	Risks are identified and mitigation plans are in place.
4	Which of the following best describes your municipality's compliance with legislated public safety requirements?	Compliance deficiencies are not identified or understood.	Compliance deficiencies are understood.	Compliance deficiencies are understood and plans are in place to resolve them.	We are in compliance with legislated public safety requirements.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
5	We have an effective means to communicate public safety bylaws to citizens.				
6	Bylaw complaints are dealt with promptly and to the satisfaction of complainants.				
7	Our municipality has a bylaw that complies with the current *Uniform Building and Accessibility Standards Act* (UBAS).				
8	We have an Emergency Preparedness Plan that is up-to-date and adopted by Council.				
9	We have a documented plan for conducting inspections of infrastructure that is up-to-date and effective.				

Public Safety

10	We have a documented public safety risk assessment plan that is up-to-date and effective.				
11	Our residents are protected by adequate shared, staffed, volunteer or contracted fire services.				
12	Our residents are protected by adequate shared, staffed or contracted inspection and by-law enforcement functions.				
Quantitative		0	1	2	More than 2
13	How many emergency response exercises have you conducted or participated in over the past three years?				

Infrastructure

Infrastructure Scenarios					
1	Which of the following best describes citizen satisfaction with the scope and condition of your municipality's infrastructure?	Citizens are highly critical of the current condition of the municipality's infrastructure.	Citizens are moderately satisfied with the condition of existing municipal infrastructure.	Citizens have a high satisfaction with the scope and condition of current and planned infrastructure.	Citizens are highly satisfied with the condition of current infrastructure and highly engaged in discussions to anticipate future infrastructure needs and acceptable levels of spending.
2	Which of the following best describes your municipality's ability to determine future infrastructure requirements and financing mechanisms?	Long term capital and asset management plans and inventory of assets do not exist or are not up-to-date.	A full inventory of assets with condition and historical data is in place and up-to-date.	A full inventory of assets with condition and historical data is in place and used in long term planning and costing plans.	Long term capital and asset management plans are in place and up-to-date.
3	Which of the following best describes your municipality's ability to fund the municipal share of capital construction and operation through local means?	Unable to meet current maintenance requirements on existing infrastructure.	Limited ability to fund municipal share of current capital needs.	Able to fund municipal share of current capital needs, but no plans in place to fund lifecycle maintenance.	Able to fund municipal share of capital construction and operation through local means.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
4	We have up-to-date asset condition data collected on core infrastructure.				
5	We effectively and frequently communicate our infrastructure plans to citizens.				
6	We have a documented and publicly available process for citizens to provide comment and contribute to the development of infrastructure plans.				
7	We have lifecycle costing plans in place for our core infrastructure.				

Infrastructure

8	Our municipality has long term capital asset management plans in place for core infrastructure.				
9	We understand what resources are needed (i.e. tools, equipment, technology) to maintain and operate our infrastructure.				
10	We have access to the resources (i.e. tools, equipment, technology) to maintain and operate our infrastructure.				
11	The rates for our municipally operated utilities are set to cover the operating and capital expenses associated with the utility. (If you do not operate utilities, leave this question blank.)				
12	Our infrastructure meets current environmental standards.				
13	Our municipality has a process in place to assess the infrastructure requirements of projected service needs.				
14	Our municipality's streets and roads are kept in a reasonable state of repair.				
Quantitative		**More than 50%**	**Between 25% and 50%**	**Between 10% and 24%**	**Less than 10%**
15	Over the last three years, how much more maintenance funding would you have required to conduct all the required maintenance on your municipal infrastructure (as a percentage of your actual expenditure)?				

Demographics & Economic Trends

Demographics & Economic Trends Scenario					
1	Which of the following best describes your municipality's awareness and understanding of its demographics (population, size of age groups, ethnic diversity, etc.) and tax base?	Demographic, population and tax base analyses are not part of Council's decision making processes.	Federal and/or provincial data sources are used in planning and decision making.	Changes in the municipality's demographics, population and tax base are monitored.	Changes in the municipality's demographics, population and tax base are monitored and planned for.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
2	We have established processes for using demographic information (from federal and provincial data sources) to support council decisions and planning.				
3	We regularly use demographic information to develop, evaluate and update municipal policy.				
4	We are constantly looking at and reacting to changes in economic and demographic forecasts as a means to project anticipated service and infrastructure needs for our municipality.				
5	We have plans in place to enhance or maintain volunteer groups'/individuals' participation in community organizations.				

Quantitative		Decline of more than 20%	Decline between 0% - 20%	Growth between 0% - 20%	Growth of more than 20%
6	What has been your municipality's overall percentage change in population over the past decade?				
7	What has been your municipality's overall percentage change in tax revenue over the past decade?				

Partnerships

Partnership Scenarios					
1	Which of the following best describes how partnerships are viewed by your council and administration?	Partnerships are not viewed as a potential solution in decision making.	Though hesitant to do so, Council is aware of its need to begin exploring partnerships as a means for sustainable service delivery.	A business case process is in place to evaluate potential partnerships and support Council decision making.	A partnership plan is in place to proactively identify partnership goals and objectives.
2	Which of the following best describes the breadth of partnership types in your municipality?	Partnerships do not exist.	Partnerships are solely employed with adjacent municipalities to address traditional services such as emergency services.	While historical partnerships are traditional in nature, Council is beginning to explore partnerships as a means to address non-traditional issues.	Partnerships are used to address non traditional issues such as regional service delivery or capital construction.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
3	Our municipality has existing mutual aid agreements with other municipalities.				
4	We have an established process to evaluate partnership opportunities.				
5	We have a formal plan to guide our establishment, evaluation and renewal of partnership agreements.				
6	Partnerships with other jurisdictions and other organizations have been very successful in the past.				
7	Our council views partnerships as a welcome means for providing service to our municipality.				
8	We have a positive relationship with local businesses and not-for-profits.				
9	We have a positive relationship with regional organizations such as First Nations communities, health authorities, school districts and planning districts.				
10	We have a positive relationship with neighbouring municipalities.				
Quantitative		0	Between 1 and 3	Between 4 and 6	More than 6
11	How many joint council and/or council committee meetings have been held with another municipal council over the last three years?				

Governance

Governance Scenarios					
1	Which of the following best describes how your municipality engages your citizens?	We typically don't engage our citizens. They come to us with concerns.	Staff continuously gathers public input as required using the best approach at the time.	Staff uses formally documented engagement processes.	We have council endorsed engagement plans that fit our citizens' preferences and characteristics.
2	Which of the following best describes your municipality's efforts to be accountable to your citizens?	Our council is often challenged to meet the legislated requirements for accountability to citizens.	Council meets all legislated accountability requirements.	Council goes beyond the legislated requirements in their reporting of decision making and financial matters. Council processes are managed by up-to-date and well documented procedures and policy.	The municipality's council practices are recognized by your peers as leading edge in their ability to inform citizen's, provide transparent systems for decision making and engaging citizens.
3	Which of the following best describes how your municipality's council makes decisions?	Council does not openly debate issues. Most items are decided before public council meetings through private discussions.	Council debates polarize council members leading to lack of decisions.	After some debate, council makes decisions that are used by most on council as the position of the municipality.	Council decisions are adopted by all as the municipality's position moving forward.

Agreement		Strongly Disagree	Disagree	Agree	Strongly Agree
4	Our municipality has a website that meets the needs and interests of our citizens.				
5	We have a citizen engagement plan and process approved by Council.				
6	Our Official Community Plan and its associated zoning bylaws are up-to-date and have been developed and/or revised in accordance with current legislation.				
7	We conduct an orientation for people who are running for council.				
8	We have up-to-date and effective procedures to manage council meetings.				

Governance

9	All meetings are held in public except when authorized by legislation.				
10	All council decisions are made by resolution or bylaw.				
11	Our administrator meets the minimum qualifications required by legislation.				
12	Public notice is provided where a regular council meeting date is changed.				
13	Our council has a mixture of first term and returning councillors.				
14	100% of our councillors have attended a council orientation session.				
15	100% of council decisions are made based upon debate that is conducted only in formal council meetings.				
Quantitative		**0**	**1 to 3**	**4 to 6**	**More than 6**
16	How many different methods did you use to communicate with citizens in the last year? (i.e. website, mail outs, town hall meetings, surveys, etc.)				

APPENDIX B1

UNIVERSITY OF SASKATCHEWAN

TOWARD A SUSTAINABILITY ASSESSMENT TOOL FOR SMALL TOWN FUTURE GROWTH

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Primary researcher: Viktoriya Zamchevska, Master of Environment and Sustainability (MES) Candidate, School of Environment and Sustainability, University of Saskatchewan

Supervisor: Dr. Jill Gunn, Department of Geography and School of Environment and Sustainability, University of Saskatchewan

Context: Sustainability assessment (SA) is now used to evaluate the environmental, social and economic sustainability of a wide range of developments and initiatives. This field of scholarship and practice is young, and it has not yet been widely applied in urban land use planning and decision-making. Especially, largely missing are easy-to use tools that could help municipalities assess their current level or state of sustainability, the outputs of which would be highly useful to inform future growth planning processes.

Saskatchewan is one of the main agricultural provinces in Canada and 45 percent of its total population lives in towns, villages and rural regions. However, Saskatchewan has experienced population decrease in towns and villages for already many decades. To assist local municipalities in preserving their communities, in 2009 the Saskatchewan Ministry of Municipal Affairs introduced the *Sustainability Checklist for Municipalities.* Nevertheless, the tool is limited to evaluation of political, financial and infrastructure resources, neither environmental nor cultural sustainability indicators are included in the *Checklist* at present.

Research Goals: The purpose of this research is to develop a sustainability assessment tool based on the 2009 Saskatchewan *Sustainability Checklist for Municipalities* that can be used by small town administrators to evaluate their current level of economic, social, environmental, and cultural sustainability, in support of future growth planning.

Methods: The study will be based on a literature review and semi-structured interviews.

1. Literature Review: Major topics of literature review will include SA concepts, frameworks, and approaches; SA tools and assessment methodology; and sustainable town planning; as well as unique aspects of small town development and governance within Saskatchewan province.
2. Semi-structured interviews: Two rounds of semi-structures interviews will be conducted with 20-25 administrators or community planners of the selected small towns in Saskatchewan.

Outcomes: The outcome of the study will be the establishment of a SA tool that can be used by small town administrations and rural municipalities to detect the sustainability "strengths" and "challenges" of their community and better plan for future growth.

Interview Themes and Sample Questions:

Small Town Developments – *e.g. Please briefly describe the stages of the community planning procedure.*

Current State of Practice – *e.g. Please briefly describe any past or present tools that you have used in order to assess sustainability state of your community.*

Current Checklist Review – *e.g. Please describe your opinion on the strength and challenges of the specified Checklist.*

Review of the Proposed Sustainability Assessment Tool – *e.g. What advice can you offer, if any, to improve the new tool?*

UNIVERSITY OF SASKATCHEWAN

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PARTICIPANT CONSENT FORM

"TOWARD A SUSTAINAINABILITY ASSESSMENT TOOL FOR SMALL TOWN FUTURE GROWTH PLANNING"

Please read this letter carefully, and feel free to ask any questions you might have.

Research Supervisor: Dr. Jill Gunn, Department of Geography & Planning, and School of Environment & Sustainability, University of Saskatchewan, Saskatoon, SK, S7N 5C8, Tel: (306) 966-1944, E-mail: jill.gunn@usask.ca
Student Researcher: Viktoriya Zamchevska, School of Environment and Sustainability, University of Saskatchewan, Saskatoon, SK, S7N 5C8, Tel: (306) 966-8462 and Cell: (306) 716-6262 E-mail: viz752@gmail.com

Purpose and Procedure: The purpose of this research is to develop a sustainability assessment tool based on the 2009 Saskatchewan *Sustainability Checklist for Municipalities* that can be used by small town administrators to evaluate their current level of economic, social, environmental, and cultural sustainability, in support of future growth planning.

Two sets of interviews will be conducted with each of the participants. Each phone interview will take approximately 30 minutes, and will be digitally recorded so as to facilitate creation of a transcript and further data analysis. Similar interviews are taking place with 20-25 other town administrators/planners in Saskatchewan. Results of the interviews will be aggregated and used to create an enhanced sustainability assessment tool. The research will lay the groundwork for future studies and applications of sustainability assessment in small town settings in Canada and internationally. This study is meant to draw attention to issues of sustainable development in small towns, and help to slow the decline of small town populations by adding to the range of tools that can enhance their viability into the distant future.

Potential Benefits: The outcome of the study will be the establishment of a sustainability assessment tool that can be used by town administrations and rural municipalities to detect the sustainability "strengths" and "challenges" of their community and better plan for future growth.
Potential Risks: There are no personal risks to participating in this study. Your affiliation, but not your name, may be identified in research reports in order to lend credibility to the research. Given the particular nature of your position in the town, it may be possible to identify specific individuals based solely on the town affiliation. However, you are being asked to provide your professional judgment and, as such, there is minimal personal risk. All data collected for this study will be reported in aggregate form only. Individual responses will not be revealed.
Storage of Data: Interview tapes, notes and transcriptions will be stored temporarily on a hard drive (dedicated solely to this study) in the office of the research supervisor, and in the long term on CDs in a locked cabinet of the research supervisor for a minimum of five years and until all publications,

conference papers, and research thesis have been produced and disseminated. The research supervisor will be responsible for all data storage and management, and will have access to all data.

Confidentiality: The information you provide to this study will be aggregated with information provided by 20-25 other town administrators in Saskatchewan, and used as the basis to develop a sustainability assessment tool for use in future growth planning. In addition, the information will be used to produce reports for publication in scientific journals and may be presented at conferences and/or workshops/meetings. Your personal identity will be kept confidential at all times. You will be identified only by your position or professional affiliation (e.g. 'town x'). However, because the participants for this study have been selected from a relatively small group of people, some of whom may be known to each other, it is possible that you may be identifiable to other people on the basis of the information you provide. In other words, only aggregate data will be presented in the research results, but confidentiality of your involvement as a participant is this study cannot be guaranteed. If, following completion of your interview, you have any second thoughts about your responses, you can contact me or the research supervisor, who will immediately remove your information from the data set or provide you with an opportunity to review your responses to determine whether you would like to withdraw certain statements from the research.

Right to Withdraw: Your participation is voluntary, and you may withdraw from the study for any reason, at any time, without penalty of any sort. You may also refuse to answer specific questions. If you withdraw from the research project, any information that you have contributed will be destroyed or returned at your request. Before and after your interview, you will be reminded of your right to withdraw.

Questions: If you have any questions concerning the study, please feel free to ask at any point; you are free to contact me or my research supervisor at the numbers or email address provided above if you have questions at a later time. This study has been approved on ethical grounds by the University of Saskatchewan Behavioural Research Ethics Board in May, 2011. Any questions regarding your rights as a participant may be addressed to that committee through the Ethics Office at (306) 966-2084.

Follow-Up: Reporting of the research findings potentially will be done during *Saskatchewan Urban Municipalities Organization (SUMA)* annual convention 2012. Data will also be presented within the forum of one or more academic conferences, one of which is annual Conference of International Association for Impact Assessment 2012. You will also receive a brief written summary of key research findings at the close of the study.

Consent to Participate: I have read and understood the description provided; I have had an opportunity to ask questions and my questions have been answered. I consent to participate in the research project, understanding that I may withdraw my consent at any time. A copy of this Consent Form has been given to me for my records.

_____	_____
(Name of the participant)	(Date)
_____	_____
(Signature of the participant)	(Signature of Researcher)

UNIVERSITY OF SASKATCHEWAN

Interviewer:
Viktoriya Zamchevska
School of Environment and Sustainability
117 Science Place, Room 306, Kirk Hall,
Saskatoon, SK S7N 5C8 Canada
Telephone: (306) 966-8462

INTERVIEW QUESTIONS

Part I. Planning Process	
	1. Please briefly describe the town planning process you have in place in (name of town).
	2. In your experience, what are the unique challenges in planning for sustainable future growth in a small town?
Part II. Past and Present Sustainability Assessment Tools	
	3. Does the town administration engage in sustainability planning or assessment? If yes, briefly describe any past or present tools that you have used to assess the sustainability of your town.
	4. I have provided you with a copy of the *Saskatchewan Sustainability Checklist for Municipalities* (Attached to the email) developed by Saskatchewan Ministry of Municipal Affairs. Were you familiar with this tool before I contacted you? If no: go to question # 6 If yes: How did you learn of it? What does your town administration/council think of it?
	5. Has your town actually used/applied the *SK Sustainability Checklist*? If yes: Please describe your experience with it
	6. Based on your reading the *SK Sustainability Checklist* what is your opinion of the tool? What are its main strengths? Do you see any areas of weakness in the tool?
	7. Do you feel the *SK Sustainability Assessment Checklist* in its current form would work to assess the sustainability of a small town?

	8. Please provide any other suggestions you might have to improve upon the existing *Checklist.*
Part III. Small Town Sustainability Issues	
Socio-ecological system integrity	9. What are the main challenges in developing or maintaining a healthy environment (natural, social, cultural) in your community? 10. What are the main challenges in managing negative impacts on the environment caused by town growth?
Livelihood sufficiency and opportunity	11. What are the main challenges in creating or maintaining a vibrant economy in your community?
Intra-generational equity	12. What are the main challenges in providing proper jobs, housing, medical care and education to all economic and social classes in your community?
Intergenerational equity	13. What are the main challenges in ensuring the viability of your community for future generations?
Resource maintenance and efficiency	14. What are the main challenges in both using and preserving the natural resources your community relies on?
Socio-ecological civility and democratic governance	15. What are the challenges in including various social groups and individuals in the decision-making and planning in your community?
Precaution and adaptation	16. What are the challenges in creating plans and policies to help ensure the adaptation and survival of your community in case of unexpected natural or economical disasters?
Immediate and long term integration	17. What are the immediate and long-term challenges in implementing sustainable development practices in your community (practices that create greater efficiency, equity, ecological integrity and civility)?

APPENDIX B2

UNIVERSITY OF SASKATCHEWAN

Prepared by:
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EXAMPLES OF SUSTAINABILITY INDICATORS ASSEMBLED FROM CANADIAN AND INTERNATIONAL SOURCES

I. SOCIO-ECOLOGICAL SYSTEM INTEGRITY

I.I IDENTIFICATION OF AN ECOSYSTEM HEALTH IN A COMMUNITY

Source: *CSD Indicators of Sustainable Development* (Economic and Social Affairs, 2005); *Zambia NBSAP Monitoring Framework* (Guveya, Kokwe, & Hachileka, 2001); *Whistler 2020* (Whistler Center for Sustainability, 2006); *Banff Community Plan* (Town of Banff Planning and Development, 2009).

Theme	Sub-theme	Indicator
Atmosphere	Climate Change	1.1 Emissions of Greenhouse Gases
	Ozone Layer Depletion	1.2 Consumption of Ozone Depleting Substances
	Air Quality	1.3 Ambient Concentration of Air Pollutants in Urban Areas
Land	Agriculture	1.4 Arable and Permanent Crop Land Area as A Percent of Total Available Area
		1.5 Use of Fertilizers
		1.6 Use of Agricultural Pesticides
	Desertification	1.7 Land Affected by Desertification
	Salination	1.8 Land Affected by Salination
	Erosion	1.9 Land Affected by Erosion
	Urbanization	1.10 Area of Urban Formal and Informal Settlements as a Percent to Total Available Area
Fresh Water	Water Quality	1.11 BOD in Water Bodies
		1.12 Concentration of Faecal Coliform in Freshwater
		1.13 Effluent Quality [24]
		1.14 Annual Withdrawal of Ground and Surface Water as a Percent of Total Available Water
Biodiversity	Species	1.15 Protected Area as a Percent of Total Area
		1.16 Undisturbed Area as a Percent of Total Area
		1.17 Fragmented Area as a Percentage of Total Area
		1.18 Converted Area as a Percentage of Total Area
		1.19 Proportion of Natural Aquatic Ecosystems With Integrity to Total Aquatic Ecosystems

[24] Number of days where effluent (water leaving the waste water plant) test results are out of compliance with the permit standards.

		1.20 Amount of Selected Key Species
		1.21 Amount of Invasive Alien Species
		1.22 Endangered Plant Species as a Percentage of Total Plant Species
		1.23 Endangered Animal Species as a Percentage of Total Animal Species
		1.24 Bio-diversity of open spaces and parks [25]

I.II DELIVERY OF ENVIRONMENTAL SERVICES

Source: *Municipal Sustainability Self-Assessment Tool Kit* (Municipalities Newfoundland and Labrador, 2003); *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs).

Theme	Indicator
Fresh Water	1.25 Does the community have a watershed protection plan, agreements, and regulations in place to address water protection?
	1.26 Does the community measure water quality levels and have a plan in place to improve environmental quality?
	1.27 Does your municipality or waste service provider have a program in place for monitoring leachate and groundwater contamination from your landfill site, or in the case of incinerators airborne emissions and impacts on nearby communities?
Biodiversity	1.28 Is your council actively involved in or supporting organizations or programs that encourage habitat and natural resource stewardship efforts in the community and surrounding area? (e.g. watershed management, marine protected areas, Eastern Habitat Joint Venture)
Atmospere	1.29 Does the community measure air quality levels and have a plan in place to improve environmental quality?
Land	1.30 If agriculture and ranching are important elements of the community, is there reliable information on soil health and water availability to direct efforts to sustain these businesses?
Planning for Environment	1.31 Does the community have or is it near areas that have natural resources (such as oil and gas, coal) that are currently being extracted or are available for extraction? If so, has the community adopted plans and policies to mitigate the negative impacts of those industries?
	1.32 Does your council have an integrated environmental management plan in place?
	1.33 Do the comprehensive plan and land use regulations protect natural resources such as streams and lakes, wildlife habitat, unique landforms, scenic vistas, etc?
	1.34 Does the local government work to minimize effect of community development on wildlife, air and water quality, etc?

[25] Variety of native and non-native species per m^2.

II. LIVELIHOOD SUFFICIENCY AND OPPORTUNITY	
Source: *CSD Indicators of Sustainable Development* (Economic and Social Affairs, 2005); *Sustainability Assessment Method (SAM)* (IUCN Northern Areas Programme, 2003); *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs); *Municipal Sustainability Self-Assessment Tool Kit* (Municipalities Newfoundland and Labrador, 2003); *Whistler 2020* (Whistler Center for Sustainability, 2006); *The Regional Growth Strategy Monitoring Program for the Capital Regional District* (CRD Planning Regional Services & The Sheltair Group, 2005); *Banff Community Plan* (Town of Banff Planning and Development, 2009); *Canmore Community Monitoring Program: 2010 Final Report* (Biosphere Institute of Bow Valley, 2010).	
Theme	Indicator
Economic	2.1 Number and percentage of households with incomes falling below the Low-Income Cut-Off level
	2.2 Number of Businesses per 1,000 People
	2.3 The percentage of residents exceeding the Gross Debt Service Ratio [26]
	2.4 Average rental costs/average income
	2.5 Average house price/average income
Commercial Development	2.6 The proportion of independent to chain retailer
	2.7 Number of business license
	2.8 Building permit value
	2.9 The square footage of commercial redevelopment
	2.10 The square footage of new commercial construction
Education	2.11 Percent of the Population with Access to K-12 schools and programs
	2.12 Teachers/Student Ratio
	2.13 Do area residents have reasonable access to community colleges and other workforce training opportunities, and are those programs linked to the estimated and projected needs of the community and region?
Health care	2.14 Percent of the Population with Access to Health Care Facilities
	2.15 Doctor/Population Ratio
	2.16 Has your community completed a Health Assessment Plan or health impact assessment?
	2.17 Is there a health component in the community's comprehensive plan, land development code and transportation plan? Does your community review and comment on health issues in development review plans?
	2.18 Are there adequate (in number and quality) day care providers in your community for children, the disabled and the elderly?
Housing	2.19 Housing Affordability Ratio
	2.20 What is the jobs-to-housing ratio in your community?
	2.21 Required average income to purchase an average starter home relative to average income for all economic families.
	2.22 The percentage of workforce living locally
	2.23 The percentage of single family/duplex/fourplex/triplex/row housing in

[26] A calculation used to determine if a borrower is able to afford making payments on a depth. This metric is typically used in the home loan industry. The equation for determining the gross debt service ratio is: GDS = TMP/GMI * 100. Where: GDS = gross debt service, TMP = total monthly payments, and GMI = total monthly income.

	the community
	2.24 Affordability of rental accommodation
Infrastructure	2.25 Infrastructure spending on new construction
	2.26 Infrastructure spending on redevelopment
	2.27 Capital reserve balance
	2.28 Infrastructure deficit
Crime	2.29 Number of crimes in your community per 100 people
	2.30 Does your community plan and design neighborhoods to reduce the threat of crime (e.g., lighting)?
Recreational Facilities	2.31 Has the community identified historical and cultural places of significance, and has it taken steps to protect and enhance these resources?
	2.32 Does your community have public spaces which can be used for community events and organizing (e.g., public plaza, regional park)?
	2.33 Is your downtown and/or town center(s) adequately supplied with public spaces, trails, and cultural amenities such as public art, a community theater, and more?
	2.34 Do your residents have access to outdoor recreation opportunities, not provided by council, in your community or within a distance your council considers reasonable?
Cultural	2.35 Has the community addressed measures to protect the community's identity through plans, policies and regulations (such as land use regulations, sign code, big box criteria, etc)?
	2.36 Perceived resident satisfaction with the selection of arts, culture and heritage offerings in your community [27]
	2.37 The number of historic resources that are registered
	2.38 The number of historic resources that are restored and preserved
	2.39 Quality of historic resources that are restored and preserved
Town Revenue	2.40 Capital reserve transfers as a percentage of annual municipal tax levy
	2.41Infrastructure deficit level
	2.42 Percentage of available debt capacity
	2.43 Ratio between capital grant revenue and annual municipal capital transfer
2.44 Does your municipality conduct Community Satisfaction Survey? [28]	
2.45 Does your municipality conduct Sense of Community Survey?	

III. INTRAGENERATIONAL EQUITY

[27] Arts, culture, and heritage offerings are defined as: films or slideshows; live music/concerts , live theatre, dance or literary events; art galleries, art displays, museums or heritage displays.
[28] As an example, Town of Banff has conducted Community Satisfactory Survey http://www.banff.ca/town-hall/banff-community-plan/community0satisfaction-survey.htm.

Source: *CSD Indicators of Sustainable Development* (Economic and Social Affairs, 2005); *Sustainability Assessment Method (SAM)* (IUCN Northern Areas Programme, 2003); *European Commission Sustainable Development Indicators* (Adelle & Pallemaerts, 2009); *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs); *Southeast False Creek Monitoring Strategy (City of Vancouver)* (The Sheltair Group, 2007).

Theme	Indicator
Social Class Equality	3.1 Gini Index of Income Inequality[29]
Gender Equality	3.2 Ratio of Average Female Wage to Male Wage
Racial Equality	3.3 Ratio of Average Canadian-born Wage to First Generation Immigrant Wage
Employment	3.4 Employment rate by gender
	3.5 Employment rate by highest level of education attained
	3.6 Employment rate by age group
Housing	3.7 Is there a provision in your community for housing special needs population (e.g. homeless, victims of domestic violence, seniors, developmentally or physically disabled and others)
	3.8 Does the local government show support for affordable housing activities by providing such items as fee waivers, additional funding, inclusionary zoning, energy efficiency programs, etc?
	3.9 Is the affordable housing located near transit or within walking distance of jobs, shopping, schools and recreation?
	3.10 Percent of the units in the City Lands for each income category

IV. RESOURCE MAINTENANCE AND EFFICIENCY

Source: *Zambia NBSAP Monitoring Framework* (Guveya, Kokwe, & Hachileka, 2001); *CSD Indicators of Sustainable Development* (Economic and Social Affairs, 2005); *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs); *A Sustainability Planning Toolkit for Municipalities in Ontario* (Blackstone Corporation & R.J. Burnside & Associates Limited, 2008); *Southeast False Creek Monitoring Strategy (City of Vancouver)* (The Sheltair Group, 2007); *Banff Community Plan* (Town of Banff Planning and Development, 2009); *Canmore Community Monitoring Program: 2010 Final Report* (Biosphere Institute of Bow Valley, 2010).

Consumption and Production Patterns	Material Consumption	4.1 Intensity of Material Use
	Energy Use	4.2 Annual Energy Consumption per Capita
		4.3 Fraction of electrical power used in the municipality obtained from renewable source
		4.4 Energy used through your town facilities
		4.5 Energy usage across the community

[29] A summary measure of the extent to which the actual distribution of income, consumption expenditure, or a related variable, differs from a hypothetical distribution in which each person receives an identical share.

		4.6 Percentage of street lights with LED lights installed
		4.7 Percentage of municipal fleet vehicles that are hybrids
		4.8 Energy (kW) provided to municipality from wind power
		4.9 Number of houses using solar unit
	Waste Generation and Management	4.10 Generation of Industrial and Municipal Solid Waste
		4.11 Generation of Hazardous Waste
		4.12 Waste Recycling and Reuse
	Water	4.13 Fraction of treated water lost according to biannual water audit
		4.14 Water usage through your town facilities
		4.15 Water consumption across the community
		4.16 Fraction of treated water lost according to biannual water audit
	Wastewater	4.17 Wastewater Generation Rate (Effluent flow per capita – Total Population)
		4.18 Total Ammonia Nitrogen (N) Loading
		4.19 Total Phosphorus (P) Loading
		4.20 Wastewater Effluent Characteristics
Tourism	4.21 Number of tourists as a percentage of tourism carrying capacity	
Livestock	4.22 Number of livestock as a percentage of carrying capacity	
Food	4.23 Yield per hectare as a percentage of potential yield by crop	
Transportation	4.24 The number of residents walking and cycling to work	
	4.25 Length of pedestrian and cycling trails and trail connectivity in a town townsite	
Stormwater	4.26 Effective impervious area (EIA)[30]	
Fish	4.27 Catch as a percentage of regenerative capacity	
Forests	4.28 Total forest fellings as a percentage of the net annual increment	
4.29 Does the community have a baseline assessment of all natural resources that, because of their proximity, are considered valued assets and as such are worthy of protection, such as prime agricultural or ranch land, water rights, mineral rights, endangered or protected species, key wildlife habitat areas, etc?		

[30] Impervious surfaces are defined in watershed management as surfaces that prohibit the movement of water from the land surface into the underlying soil or dirt. Buildings and paved surfaces (e.g., asphalt, concrete) are considered impervious covers. A natural condition (e.g., bedrock close to the surface, very dense soil layers such as hardpan that restrict water movement) is not considered "impervious cover (New Jersey Water Supply Authority, 2000).

V. PRECAUTION AND ADAPTATION	
Source**:** *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs)**;** *Alberta Municipal Sustainability Self-Assessment Toolkit* (Alberta Municipal Affairs, 2010).	
Economic Adaptation	5.1 Does the community have an economic development plan detailing the goals and objectives of the community, including downtown development? If so, does it list the types of jobs, household incomes, community service demands and commuting requirements created by these goals?
	5.2 Does your community know its primary economic drivers and how they are forecast to change over time? If so, is the community aware of what skills are demanded by the drivers and is there an educational system designed to prepare workers for these occupations?
	5.3 Has the community reviewed population forecasts by age and household income to determine what types of community services will be needed? Who will provide for these needs (government, non-profit, etc.)?
	5.4 Has the municipality conducted a Corporate Risk Assessment?
	5.5 If yes, does the municipality have a Corporate Risk Mitigation Plan?
Planning for Natural Disasters	5.6 Does the community have a warning system, evacuation plan, or sheltering plan?
	5.7 Does the community have a local emergency manager or designated planning and mitigation staff (e.g., certified floodplain manager, wildfire mitigation officer)?
	5.8 Does the community have a drought preparedness plan?
	5.9 Do the land use regulations address natural and technological hazards (e.g., floodplain, snow load, geologic instability, wildfire, etc.)?
	5.10 Does the community have an emergency operations plan and a dedicated Emergency Operations Center (EOC)?
	5.11 Does the community have a single point-of-contact (e.g., public information officer) for dealing with news media and the public during emergencies and disasters?
	5.12 Do elected and executive-level officials participate in the emergency management planning process, including exercises?
	5.13 Does the community have a continuity of operations/continuity of government (COOP/COG) plan?
	5.14 Does the community have a disaster recovery plan? Does it consider how the community will meet the needs of vulnerable populations (elderly, school children, people with disabilities, pets, etc)?
	5.15 Does the municipality have plans in place to address

	environmental risks (e.g. reclamation plan)?
	5.16 Does the community's master/comprehensive plan and capital improvement plan address natural and technological hazards?
Service Delivery in Case of a Disaster	5.17 Does the community have formal, written mutual aid agreements?
	5.18 Is funding set aside for unexpected emergencies?
	5.19 Does your municipality have a municipal service/corporation continuity plan in place?
	5.20 Are plans or strategies in place to manage the loss of critical community resources such as labour or loss of major industries?
Planning for Medical and Technological Emergencies	5.21 Is your community prepared for mass medical care emergencies (e.g., flu epidemic)?
	5.22 Has the community identified all natural and technological hazards, as well as other security issues, that impact the community? Has the community considered and planned for the vulnerabilities to those hazards (especially for critical facilities, such as hospitals)?
Planning for Climate Change	5.23 If identified as a community goal, does your community have a climate change plan developed that sets measurable goals and objectives, and addresses mitigation efforts? Does it address impacts on vulnerable populations such as seniors, children or lower income individuals?

VI. **IMMEDIATE AND LONG-TERM INTEGRATION**	
Source: *Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments* (Colorado Department of Local Affairs); *Municipal Sustainability Self-Assessment Tool Kit* (Municipalities Newfoundland and Labrador, 2003).	
Built Environment	6.1 Do the community's land use and building codes require energy efficiency and green building? Are there programs to assist affordable housing developers with these requirements?
	6.2 Does the community have an energy efficient building code?
	6.3 Does the community have any policies or incentives for cleanup and redevelopment of brownfields (properties with real or suspected contamination issues)?
	6.4 Are there brownfields sites in the community that could be remediated to allow business, residential, mixed use, parks/open space, or public use? If so, are these sites being pursued for clean-up and redevelopment?
	6.5 Has your community adopted an efficient energy code or green building provisions in its land use and building codes (e.g., IECC 2009)?
Delivery of Services	6.6 Has the community conducted studies on the cost of new services or the increasing costs of current services?

	6.7 Do schools, local governments and others share facilities (e.g., fields, gyms, pools, meeting rooms)?
Urban Planning	6.8 Is the downtown pedestrian-oriented? Is the downtown connected to the rest of the community through sidewalks, trails, public transportation and with clear signage?
	6.9 Is your community designed so that walking and biking are viable, safe transportation options for many (including school kids)?
	6.10 Do your community's development patterns and transportation systems help reduce the use of energy and resources?
Energy Efficiency	6.11 Has the school district examined possible energy efficiency and renewable energy upgrades? Has the district considered the Governor's Energy Office High Performance Schools program for new construction or the Energy Performance Contracting program for existing buildings?
	6.12 Does the community work together to reduce energy use and improve renewable energy options for residents, businesses and government?
	6.13 Does your community have a sustainability coordinator or other staff dedicated to energy efficiency and conservation?
	6.14 Do your local governments model energy efficiency and conservation through hybrid fleets, recycling, energy efficient equipment (e.g., LED lights) or other means?
	6.15 Does the community encourage the use of energy efficiency or renewables measures through programs (e.g., weatherization) and regulations to its residents, businesses, schools and other governmental entities?
	6.16 Has your municipality introduced policies or programs to reduce energy consumption within your municipal operations? (e.g. retrofitting street lights and municipal buildings with energy-efficient light bulbs, energy audits and building retrofits, green building design for new municipal buildings)
	6.17 Has your council introduced policies or programs to encourage reduced energy consumption within the community?
Reduction of Water Consumption	6.18 Does the community work together to reduce water consumption and improve sustainable water supply options for residents, businesses and government balanced with needs for recreation and the environment?
	6.19 Does the water provider(s) of your community have a water conservation plan? Does it use a tiered rate structure for water billing, or other conservation incentives?
	6.20 Has your council introduced policies or programs to encourage reduced water consumption within the community?

Waste Reduction	6.21 Does your community have a recycling or other waste diversion program?
Community Outreach and Education	6.22 Does your community conduct any educational outreach to teach citizens, students and businesses about energy efficiency, conservation and sustainability practices?
Reduction of Atmospheric Pollution	6.23 Has your community conducted any studies (such as a greenhouse gas emission inventory) to determine its carbon footprint?
	6.24 Is your council involved taking steps to reduce greenhouse gas emissions in your municipality? (e.g. reducing automobile use through carpooling policies, encouraging transportation alternatives, providing trails/lanes/paths for travel by foot and bike, switching to renewable energy sources)
Food Security	6.25 Does your community have urban gardens, farmers' markets, or other ways of encouraging/promoting locally grown food?

VII. REGIONAL COOPERATION	
Source: *Municipal Sustainability Self-Assessment Tool Kit* (Municipalities Newfoundland and Labrador, 2003).	
Sharing of Services, Infrastructure and Equipment	7.1 Does your council have the ability to share services with one or more adjacent communities? (considering geography and other factors you feel are relevant).
	7.2 Does the municipality presently participate in a service sharing arrangement with an adjacent municipality or LSD?
	7.3 Is your council willing to collaborate more in service delivery in the future?
	7.4 Does your municipality currently share any infrastructure with another municipality or LSD?
	7.5 Does your municipality currently share any equipment with another municipality or LSD?
Regional Meetings and Cooperation	7.6 Do neighboring communities in your region meet periodically to discuss issues of common interest?
	7.7 Is there a history of cooperation among communities in your region? (not necessarily municipal)
	7.8 Is your council officially and actively involved with a regional governance body? (RED Board, Tourism Dev Assoc., CBDC)

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INTERVIEW QUESTIONS (ROUND 2)

NOTE: I WILL ASK THE FOLLOWING SIX QUESTIONS IN RELATION TO ALL SEVEN SECTIONS IN THE PROVIDED LIST OF INDICATORS.

1.	Do you think that this broad category of information is relevant to sustainability assessment for small towns?
2.	Which of these indicators do you already measure? How often do you measure them? What are some of the challenges in doing that?
3.	For the indicators you do not measure: What are the challenges that prevent you from measuring them?
4.	Which of these indicators, if any, do you feel does not belong or is not relevant to sustainability assessment? (i.e. Are there points that are not applicable to your community? Which ones are those?)
5.	Are there any indicators that you feel are missing from this section?
6.	Do you think this section as a whole, regardless of the indicator examples provided, should be included in a checklist that evaluates sustainability of a municipality, large or small, rural or urban?
Final question	What are the challenges in assessing and/or monitoring the types of indicators we just discussed, across all sections? Please be as specific or broad as you like.

APPENDIX C1

Socio-Ecological System Integrity

Socio-ecological system integrity means ensuring healthy relationship between human activities and surrounding natural environment so that an ecosystem can stay healthy. Healthy ecosystems are essential for human well-being, people depend on nature for all essential elements for survival as air, water, food, and rest of resources for providing shelter, etc. Human activities currently have an enormous effect on surrounding natural environment, sometimes they have dramatic effects that cause changes to the ecosystem and make impossible to support human activities and healthy environment for all living things within. Gibson *et al.* (2005: 96) states that "For sustainability, the objective is not to prevent system change but to organize and manage out activities so that the changes we influence still preserve the system conditions and services upon which we rely." Besides considering biophysical resilience, the criteria also covers considerations for social resilience, and how well social systems can support adaptation and resilience to changes in the environment.

Livelihood Sufficiency and Opportunity

Human well-being is an essential aspect of sustainability, however it is important for humanity to satisfy its needs for well-being and development without causing environmental degradation and it is important to prioritize development of people for whom it is a necessity rather than luxury (Gibson et al., 2005) . It is hard to see the clear line between essential needs and supplementary ones, especially taking into account all the differences in lifestyles and cultures, however there are ones that are essential for all human population such as:

> Performing the basic function of life (the intake of adequate nutrition, maintenance of health, protection, reproduction, growth) and taking part in the socio-economic and cultural life of the community (learning, understanding, communicating, producing, exchanging) […] (Canadian International Development Strategy, 1997: 4).

It is important to remember that satisfying human needs in the current generation should not compromise the chances for future generations to satisfy their needs.

Intragenerational Equity

Robert Gibson describes intragenerational equity on the global scale as an equal distribution of wealth and resources between the rich and the poor in the world, as well as greater political equality among different social classes and countries in the world. This picture is quite different on the smaller scale, although gap between rich and poor is quite wide in many countries in the world, it is not as evident in developed countries as Canada. So the aspect of intragenerational equity has different side to it in here, there is less attention to equal distribution of wealth and more attention to providing equal rights and standards of living to people of different genders, races and physical and mental conditions. Therefore, considering all the

above- mentioned factors Gibson suggests alternative to the global picture of equal living which he refers to as Livelihood Equality that besides political and material equality includes health, employment, provision of knowledge and community security.

Intergenerational equity

Intergenerational equity is an important aspect in the concept of sustainability. The difficulty with fulfilling this, is to know exactly what will be the effect of our actions in the future (Gibson et al., 2005). Another question that humanity is struggling with right now is whether gains in human capital (wealth, knowledge, technological advance) are justified for destroying natural environment. However, at the moment, natural environment is severely degraded from human activities and resource exploration is at the stage where most of the valuable resources are enough for the next 50-100 years, 200 at most. The dilemma now is whether there is a point to protect whatever is left, or to invest into development of technology that will hopefully help out to restore damages done, replace exhauster resources and will enable humanity to live more sustainably (Gibson et al., 2005).

Resource Maintenance and Efficiency

Currently, there is a big gap between developed countries and developing ones in terms of resource consumption. Top 5 per cent of population consumes 85 per cent of global resources which creates unequal distribution of wealth and resources. However, in order to achieve equality in the present world without further damaging ecosystem and without pushing the borders of planet's carrying capacity, it is important to equalize global development and decrease resource consumption and waste generation in developed countries and distribute that part among developing countries, so that their development does not pose further pressure on the planet. There is quite a debate on how to achieve this balance and sustainable resource consumption, some of the suggestions are described by Gibson *et al*. However, it is clear that more sustainable management of resources is required, it includes product consumption and waste generation.

Socio-ecological civility and democratic governance

Proper government and governance structure is an important element to actually implementing sustainable development strategies and shifting from the business-as-usual model. However, Gibson et al., (2005) questions the current model where markets have taken such a wide area for control and government just takes a place of facilitator, regulator and compensator of those activities. The authors say that current arrangements have proven to cause "horrible maldistribution, large regions of development failure, persistent and in some ways worsening global insecurity, and cynical expectation of untrustworthy assurances and broken commitments" (Gibson et al, 2005: 108) and that the existing model is failing to manage those problems. According to Gibson et al., there needs to be third figure in this model, which is citizens, they are the ones that can bring the change, participation and informed contribution to decision-process.

In order for that to happen, the following factors should be in place: “insistence on decision making transparency and public involvement; the proliferation of non-government and non-market groups demanding or asserting significant roles in collective action; and greater attention to the glue of commitment and engagement that holds community together” (Gibson et al, 2005: 109).

Precaution and Adaptation

Sustainable development is meant to ensure stable and prolonged development, which means that system is resilient and adaptive to changes in the surrounding environment, whether it is biophysical or social environment. Systems are constantly under change, they are never constantly stable and it is important to make all the precautionary preparations that would enable adaptation and resilience to changes. It is hard to predict a change, and it is even harder to plan for an unpredictable changes, but it is important to be ready for possible changes and be either strong enough to withstand or flexible enough to adapt. In case of a community, that would mean insurance that it can withstand possible Natural, Medical and Technological disasters and has a plan of action in that case, as well as can adapt to possible Economical Changes in the community. Recent changes to the climate and its subsequent effect on the communities’ well-being made it important to include a section Planning for Climate Change.

Immediate and Long-Term Integration

While sustainable development is a new paradigm that had not made its way into the current planning process, sustainable living is another new paradigm to the industrialized society that yet has to be integrated into the current lifestyle. It is important to prepare current social and economic systems to the changes that have to be made in order for the shift to occur and to start implementing the necessary changes that would make our society more sustainable. This criterion is designed to understand how well municipalities are implementing sustainable practices into their communities’ lifestyles.

APPENDIX D1

Sources of Indicators for Gibson's Eight SA Criteria

Sections of the proposed indicators		1	2	3	4	5	6	7	8	9	10	11	12	13
1	Socio-ecological system integrity			•		•			•	•	•			•
2	Livelihood sufficiency and opportunity			•	•	•		•	•	•	•		•	
3	Intragenerational equity						•			•	•	•	•	
4	Resource maintenance and efficiency		•	•	•		•			•	•			•
5	Precaution and adaptation	•								•				
6	Immediate and long-term integration					•				•				
7	Regional cooperation					•								

Canadian and US Sources:

1. ***Alberta Municipal Sustainability Self-Assessment Toolkit***
2. ***A Sustainability Planning Toolkit for Municipalities in Ontario***
3. ***Banff Community Plan***
4. ***Canmore Community Monitoring Program: 2010 Final Report***
5. ***Municipal Sustainability Self-Assessment Tool Kit (Newfoundland and Labrador)***
6. ***Southeast False Creek Monitoring Strategy (City of Vancouver)***
7. ***The Regional Growth Strategy Monitoring Program for the Capital Regional District***
8. ***Whistler 2020***
9. ***Colorado Community Sustainability Guide: A Self-Assessment Tool for Local Governments***

Other International Sources:

10. ***CSD Indicators of Sustainable Development*** *(UN)*
11. ***European Commission Sustainable Development Indicators***
12. ***Sustainability Assessment Method (SAM)*** (IUCN Northern Areas Programme., 2003)
13. ***Zambia NBSAP Monitoring Framework*** *(IUCN)*